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THE ROMANCE OF
OLD SANDWICH GLASS

The Romance of Old Sandwich Glass



*With
Dictionary of
Old Sandwich Patterns*

By Frank W. Chipman
Sandwich, Massachusetts

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The rarest of Old Sandwich Glass specimens—the Sandwich Glass Bank, made in 1831, with a dime of that date inserted. There are only eight of these banks known to be in existence

TO THE MEMORY OF
MY FATHER AND MOTHER
SANDWICH GLASSWORKERS
WHO TOOK PRIDE
IN THEIR CRAFTSMANSHIP

FOREWORD

The passing of a century enhances the value and the charm of the products of art and industry which have gained world-wide recognition and fame as desirable relics of a period beyond memory. The real value of an antique and the extent of its charm depend in large measure upon the romance that enlightens us concerning the craftsman and his product.

Old glass has probably interested more people than any one creation in the category of antiques. No real connoisseur, however, would be satisfied with a collection without its history. Old Sandwich Glass is rich in history, unique in conception and design. The story of its production is replete with human interest.

The son and grandson of Sandwich glassmakers, privileged to handle and study the original moulds, to enjoy personal intimacy with the craft and its craftsmen, and to have access in later years to the original Factory records, I submit that my knowledge qualifies me to speak with authority on this fascinating subject.

I have in my possession the only existent certificate, issued to a journeyman glassmaker, signed by Deming Jarves, founder of the Sandwich Factory. It was presented to my grandfather, William Talbot, after two years of faithful indented apprenticeship and is dated December 1st, 1836.

My father, Thomas H. Chipman, was a puntier. My mother, Annie Talbot Chipman, capped lamps. My uncle, George W. H. Chipman, had charge of the Mould Room. Another uncle, Charles W. Talbot, was an expert etcher.

Many times I personally observed the oiling and cleaning of the moulds, studied the wonderful and intricate designs that real craftsmen had conceived and executed, thereby fixing in my mind the patterns that give to Old Sandwich Glass its distinction and appeal.

Given this background, I have written this book. At the request of many collectors, I have endeavored to make it primarily an informative and authoritative guide. Therefore, the detail and descriptive matter assembled constitute a considerable proportion of my story. However, it would be impossible to write about Old Sandwich Glass without entering the realm of romance that surrounds its history. The very inception of the Sandwich Glass Factory and its sixty-three years of productive existence are replete with unique incidents.

Sandwich Glass is as much a phase of early American life as cranberry sauce or baked beans and brown bread. It is associated in mind with the closed best room, the ingrain carpet, the chimney closet and the handcarved mantelpiece. The men who made it were translating the poetry of simple life into a language of line and form that was all their own. Under the arching elms of the Old Jarvesville yard, near the murmuring sea, craftsmen were inspired and there they created.

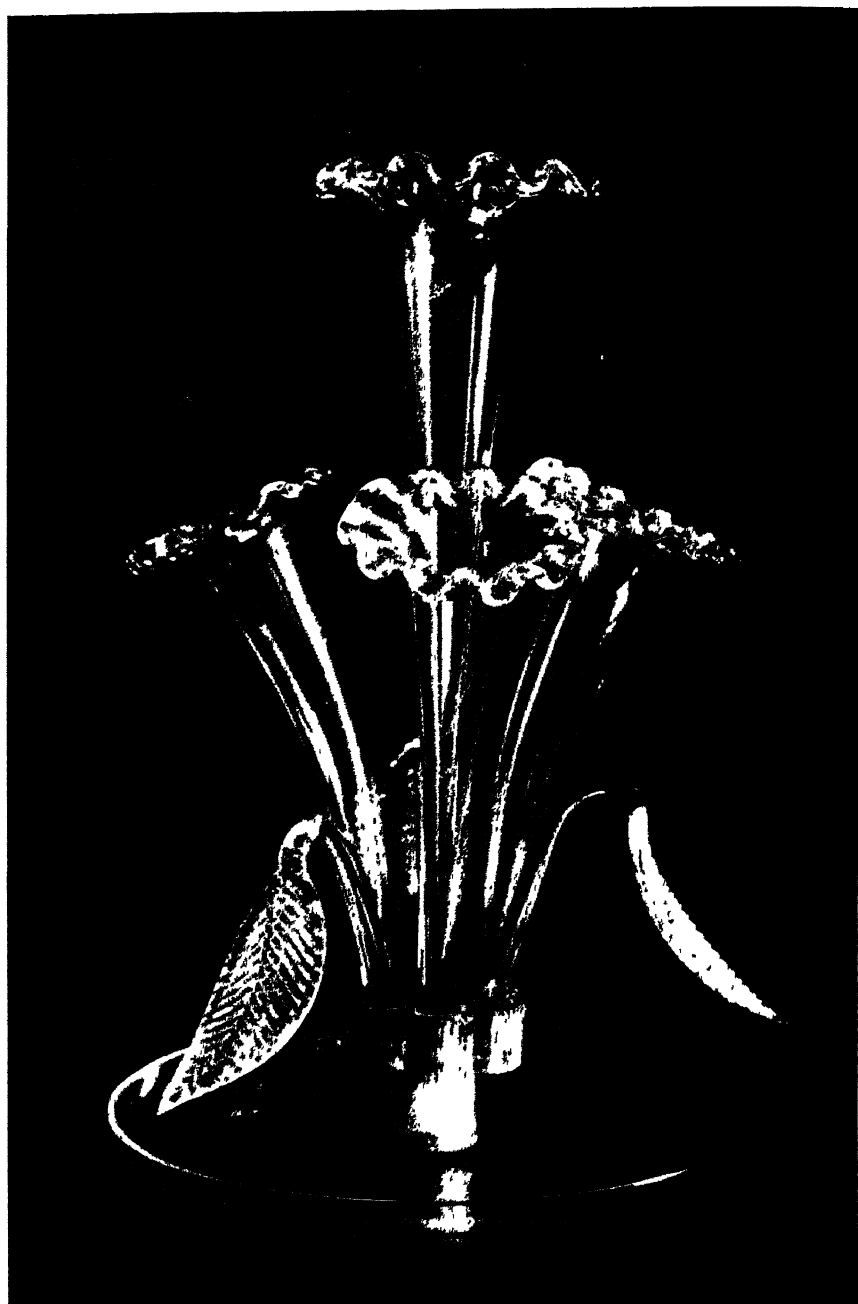
In writing this book, I have tried to establish something more than the superior quality of Old Sandwich Glass or to enumerate and define its various patterns and colors. The impelling motive that prompted me to undertake the task was based on an earnest desire to interpret, to all who are interested, its real significance.

It is my hope that I have so portrayed the craftsmanship, the faithfulness and the constancy of Sandwich glassmakers, and the spirit of Deming Jarves, his associates and successors, as business idealists, that Old Sandwich Glass may have a value beyond its material or ornamental use.

FRANK W. CHIPMAN

A rear view of the Sandwich Factory—from an old woodcut





In this epergne the craftsmanship of Old Sandwich glass-makers approached its zenith. This beautiful specimen is owned by Mrs. Charlotte Hall Chipman of Sandwich

FROM SIDON TO SANDWICH

Sandwich glassmakers were apprenticed "to learn the art, trade or mystêry" of glassmaking. Today their art is lost; to most collectors it *is* a mystery. Volumes have been written about glass, covering the marvels and principles of glassmaking, the curiosities, methods, designs and colors, but the Romance of Glass has seemed to escape the attention of the numerous writers who have contributed to the subject.

Has nobody discerned the romance? Or thought it of moment that this art, having no orderly progress of development from one enlightened step to the next, should spring "full-orbed" into being? Surely none who have pondered on its rarities but will pronounce it good.

I challenge anyone to find, in the entire scope of human invention, a more ingenious accomplishment than the art of making glass. "Although perfectly transparent itself, not one of the materials of which glass is made partakes of that quality," points out an early illustrator of its history. "A combination," he adds, "which at the period of its invention may have been as astounding as the identity of charcoal and the diamond established by the chemical philosopher of our time."

Romance attended the very origin of glassmaking. Pliny relates the story thus: "Some Phoenician mariners, who had a cargo of nitrum (salt, or, as some have supposed, soda) on board, having landed on the banks of the River Belus, a small stream, at the base of Mt. Carmel in Palestine, and finding no stones to rest their pots on, they placed under them some masses of nitrum,

which, being fused by the heat with the sand of the river, produced a liquid and transparent stream. Such was the origin of glass." Its discovery, over 5,000 years ago, was an accident!

Pliny goes on to tell us that the Sidonians, in whose vicinity the discovery was made, took it up and carried the art to a high degree of excellence. It was they, with sand, and soda of the potash variety, who first developed glass. The Egyptians made glass 3,500 years ago and their conquerors, the Greeks and the Romans, continued and improved the art. The shaping of glass in these early days was done, of course, by blowing.

So, long ago, the blowing-iron designated the glassmaker King of Fire and Air. Repressed, restricted, her creators penalized, the Spirit of Glass has lived on through the ages, appearing in multifold guises, now quiescent for centuries, now springing into view in some oddly beautiful phase. In the Middle Ages she lay dormant perhaps for ten centuries, then gloriously arose and greeted the dawn in cathedral windows. Whimsical, notional, after her long sleep, in this guise she elected to display her artistry.

It seems that a halo of the unusual always has attached to the occupation of the glassmaker. It is well known that at one time in Venice a title of nobility was conferred on the men who made glass. It suggests a glorious Utopia in which toil detracts in no measure from social standing, a social community in which the laborer sweating before his flaming furnace is equal in rank to the highest magnate.

One wonders why glass is awarded this special dispensation from that which generally attaches to articles of manufacture. In almost every art the artist brings something into objective vision by shaping or applying materials already to hand. With glass, the

mysterious, the substance itself springs into being together with its design. So the actual creators of glass, even though their toil was menial, were regarded much as the artist who brings to life the masterpiece on canvas.

Old Sandwich is the subject of my story. And because history will forever associate the name of Sandwich with glass, just as she names Pilgrim and Plymouth in a single thought, so one more town is added to that list which begins triumphantly with Sidon, flames to glorious light in Murano, rises to crystal heights in Bristol and Waterford, and ends (shall we think it?) in the little seaside town of Sandwich, Massachusetts.

The Sandwich phase is contemporary so we may handle the charming subject close at hand, or bring it close to hand by delving into attics and corner cupboards, climbing on chairs to the dusty top shelf where rests the cobwebbed compote of Lincoln Drape—and by just these methods what a reward was the writer's!

AQUA HOMO'S ATTIC

In the old garret of one Charles P. Waterman, amidst colonies of spiders building their state roads, there were brought to light numerous old account books, quite rusty with age, in which were pasted clippings from copies of an old newspaper, *THE SANDWICH REVIEW*. These clippings contained articles on the Sandwich Glass Factory and were written under the head of Communications. They were signed "Aqua Homo", who our meagre knowledge of Latin leads us to believe was Waterman himself.

Together with the account books were several lists written in ink and bearing the seal of The Boston and Sandwich Glass Company. These lists contained the names of articles manufactured, the

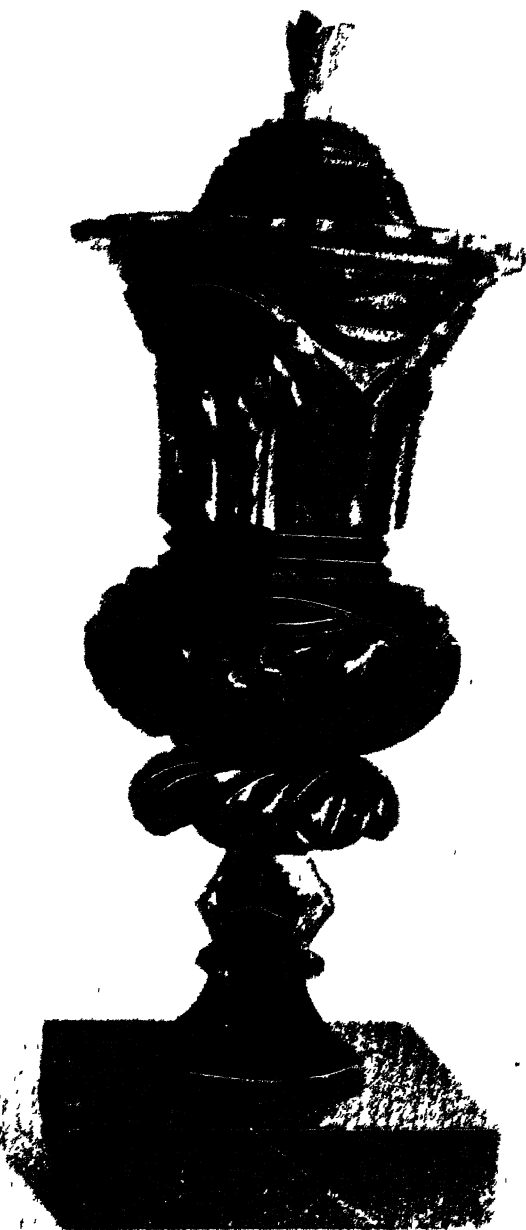
quantities required, and what was doubtless the whole-sale price of the manufacturer. Many familiar, some strange, patterns were recorded.

Aqua Homo's Attic. Magic words! From this ancient conning tower I saw the great spectacle of Glass stretching toward me down the ages. The small-paned window, high among the elm branches, was sufficiently elevated for me to look across the town to the beach and see the breakers frothing in; but I looked far beyond and saw an elastic, shining thread of glass stretching across the sea from far distant Phoenicia and Sidon to Massachusetts and Sandwich, a crystal thread uniting the ages and the understandings of men. The dead centuries came together like the bones in Ezekiel's prophecy, animated by the Spirit of Glass.

THE PEG OF SERVICE

Strange, I thought, that glass, which is capable of being at once perfectly adapted to a useful purpose and at the same time delightfully ornamental, does not seem really suited for purely decorative effects, at least when divorced from the semblance of utility. "Verres de Parade" and ornamental cups, vases and candlesticks are often exquisite pieces of decoration, but it seems that there must be this "peg" of service on which to hang the ornament or the result is unsatisfactory and almost tawdry.

Glassworkers of an humble type seem to have felt this, for we find glass pipes that have never held tobacco, glass walking sticks that would smash at the least contact with a stone, and glass rolling pins which got no further toward the culinary department than the kitchen wall. I once saw a rolling pin, made in Sandwich, so marvelously ornate that it required a catalogue to make clear its identity.



This urn, a superb piece of Sandwich ruby, is treasured by Mrs. Marion Jarves Alger of Grosse Pointe Farms, Michigan, widow of Russell A. Alger, former Secretary of War. It was made especially for the Centennial Exposition in Paris

Of course, there was the witch ball, made both in England and Sandwich, but after all it also had an object of service. It was supposed to ward off disaster. It resembled a toy balloon of bright red or blue.

There came a time, to be sure, when Sandwich Glass fell so low in the utilitarian scale that it was even used as playthings by the glassworkers' children. I have played "Duck-on-the-Rock" with pieces that to-day would grace any collection. They were common then and familiarity bred indifference if not contempt.

I remember very clearly two paper weights which were knocking about our house in Sandwich, years ago. They bore the rough mark or pontil on the bottom, the top was rounded, and inside, deep down, were what looked like little rosettes of colored ribbon which we children likened to Christmas candy. We used these paper weights as door stops. They had been produced in Sandwich, and in a variety of colors. Had we known that they were the honorable descendants of the Roman Millefiori and the Venetian Ball perhaps we might have treated them more decorously.

OUT OF THE CULLET HEAP

We are told that women of Phoenicia and Egypt ornamented their apparel with gems of glass in the form of beads. It is not likely that Hazel Blake French of Sandwich had in mind any thought of the women of two thousand five hundred years ago on that day a few years past when, crossing the yard of the old Boston and Sandwich Glass Works, she picked up a fragment of glass from the cullet heap or waste pile. What she did have in mind was that same instinct that spoke in the ancient woman's love of personal adornment.

The beauty of coloring of the piece of cullet amazed Hazel Blake French, and the idea was born that



Digging for buried treasure in the old cullet heap before the ruins of the "Glory Hole"

this sort of glass, if treated by a lapidary, could be made into beautiful and salable gems. These rough, colored pieces when smoothed, polished and shaped have been set in gold and silver mountings by Mrs. French who has exhibited them to Arts and Crafts Societies as her "Interpretative Jewelry".

Amid the ruins of the Old Sandwich Factory, many glass fragments of beautiful colors are still nestling while the waste heaps form a scientific and romantic brotherhood with those of Tell-el-Amarna, Tyre, Sidon, Murano, Waterford, Chiddingfold and Bristol.

Sandwich has become co-equal with Venice, but instead of saying "This piece came from the Treasury of St. Mark's", we say, "This piece came from under the Town Hall where Kimball Chipman and his brother, William, used to manufacture marble bases for lamps", or "This came from Gaffer Lapham's house", or "This was found in the old well of the Factory Yard."

Opal



Knobs

DEMING JARVES GOES SHOOTING

The old Sandwich Glass Factory, or Boston and Sandwich Glass Factory as it was called, was founded by Deming Jarves, a pioneer in the glass industry in Boston. Mr. Jarves was enjoying his favorite pastime of bird shooting on the Sandwich marshes in 1824 when he visioned and planned the Sandwich Factory which was destined to be one of the largest and most famous glassmaking establishments in the world.

At the head of a navigable creek, extending from Cape Cod Bay through half a mile of marshland to an advantageous upland tract of more than thirty acres, Jarves saw the site for his plant. Within easy range of his vision, the hills of pine wood promised the desired source of fuel for the furnaces.

It was in April, 1825, just after the inauguration of John Quincy Adams as President, that the erection of the buildings was begun. Besides the Factory there were fourteen or fifteen tenements for the workers, which later were sold to them on the installment basis of payment. A general store, a butcher shop and a barn for the company's teams also were erected. For the latter purpose, part of the rope walk that formerly stood not far from the old Providence depot in Boston was purchased and used as far as it would go. The original Factory accommodation was one small furnace of eight pots with a capacity of eight hundred pounds each.

On July 4th, 1825, the first pot of glass was made. The sand for the purpose was taken from the common sand bank opposite the works. The townspeople gathered around and crowded the workmen, who were facing experimental difficulties, and at last the man-

agement was forced to close the doors. This first attempt did not meet with success although glass of a sort was obtained.

The first product was cloudy in color and badly flecked, which clearly proved to the mixers of materials that Cape Cod sand was not at all suitable for glassmaking. The hard, fine pebbles failed to flux and it was obvious that the soft mealy sand of New Jersey or the Berkshires must be obtained. This accomplished, the production of quality glassware was no longer difficult.

Many people still have the impression that the old Glass Factory was located at Sandwich because of the abundance of sand but this was not what Mr. Jarves had in mind when he selected the site. What he saw was a navigable creek, cheap land, and an abundance of fuel at hand.

THE QUEST FOR SAND

The sand, for years, came from Morris River, New Jersey. One cargo was obtained from Pensacola and subsequently one from France, but neither was satisfactory. They later obtained sand from Lanesboro, near the Window Glass Factory, but the small specks of fine clay which appeared throughout the melted glass again necessitated a change. This entailed difficulty, as a Mr. Smith of New York was said to have bought up every bed of quartz sand in Berkshire!

The Company, therefore, sent Charles P. Waterman to see if this were so and to a great extent it was found to be true. The farmers were being paid \$50 for the privilege of digging sand on their farms from Cheshire, with a few exceptions, down to Milford, Connecticut. Having arrived in Cheshire after dark and made a few enquiries, Mr. Waterman gathered a



The original plant—the first unit of the Old Sandwich Factory founded by Denning Jarvis

little company around him as anxious to hear and know the object of the stranger's visit as he was to tell it. He found that they were not friendly to the speculations of Smith, that they were gratified with the knowledge of his visit, and with a lantern they conducted him to the wheel pit. In that old pit he took a sample of sand which, upon assay in Boston, proved to be 97% pure quartz sand. An old glass factory had formerly stood on the same plot of ground.

This whole bed might have been purchased for a small sum. It was bought, later, by a gentleman from Salem, and hundreds of thousands of dollars worth were sold from it, some of the sand being shipped to England. Almost all the sand for first quality glass has been used from it by the Eastern glass factories.

The cause of its purity, Mr. Waterman reported, was its having been washed, beyond the memory of man, by the outbreak of a lake back of the northwestern spur of the Hoosac Mountain. In following down the western side of the mountain toward Pittsfield, he found the outcropping of sand extending to the Dalton road where iron ore suddenly appeared. Some of these beds of sand gave evidence of having been washed from the solid body of quartz rock high up the mountain, particularly that bed near the Lanesboro Window Glass Factory. Ten acres Waterman purchased for Deming Jarves. Larger acreage was acquired for the Sandwich Factory in this locality at a later time.

Lead and potash were the other basic elements of high grade glass and to this day no substitutes have been found to equal them. These two ingredients gave to Sandwich glass its soft, velvety texture, brilliant sheen and that bell-like ring. In those days lead and potash were easily obtained and inexpensive, so procuring them presented no problem.

MAGIC IN THAT SANDPILE!

Mr. Jarves had intended his factory to be a small personal enterprise but his agent had exceeded orders in the purchase of land. More capital was imperative. Little dreaming, probably, that his purchasing agent's over-zeal in the quest for sand was to work indirectly a marvellous expansion in his business and, in turn, the magic development of the town, he associated himself with Edmund Munroe, then treasurer of the New England Glass Company, and with Captain William Stetson, in order to raise the needed operating funds. With these men he carried on the business until the Spring of 1826, when a company was incorporated under the name of The Boston and Sandwich Glass Company. Following is an account of the incorporation:

"Deming Jarves, Henry Rice, Andrew T. Hall, and Edmund Munroe were the incorporators with a capital of \$300,000, the right to hold real estate to the amount of \$100,000, and personal estate to the amount of \$200,000.

"The incorporators met at their office, April 19, 1826, in the Exchange Coffee House in Boston, for a choice of officers and the adoption of by-laws for its internal government. They chose Samuel Hurst as clerk, Samuel P. P. Fay as director and president; Edmund Munroe, director and treasurer; Deming Jarves, agent; Benjamin Sewall, director; Andrew T. Hall, director. (A later and distinguished president of the Company was Joseph Howe, brother of Dr. Samuel Gridley Howe, the husband of Julia Ward Howe).

"Under the act of incorporation and terms of sale they received and took possession of all the property of the Glass Manufactory established by Deming Jarves—including the stock in the store conducted for the convenience and supply of the workmen, and con-

sisting of West Indian, domestic and foreign goods, including 10 barrels of flour, 286 lbs. of cheese, 29 yards of cosinette, 114 gals. rum, 114 gals. cider.

"This store from its first establishment proved unprofitable and the Company soon sold it to an individual who succeeded no better, finally failed, and the avails were distributed among the creditors".

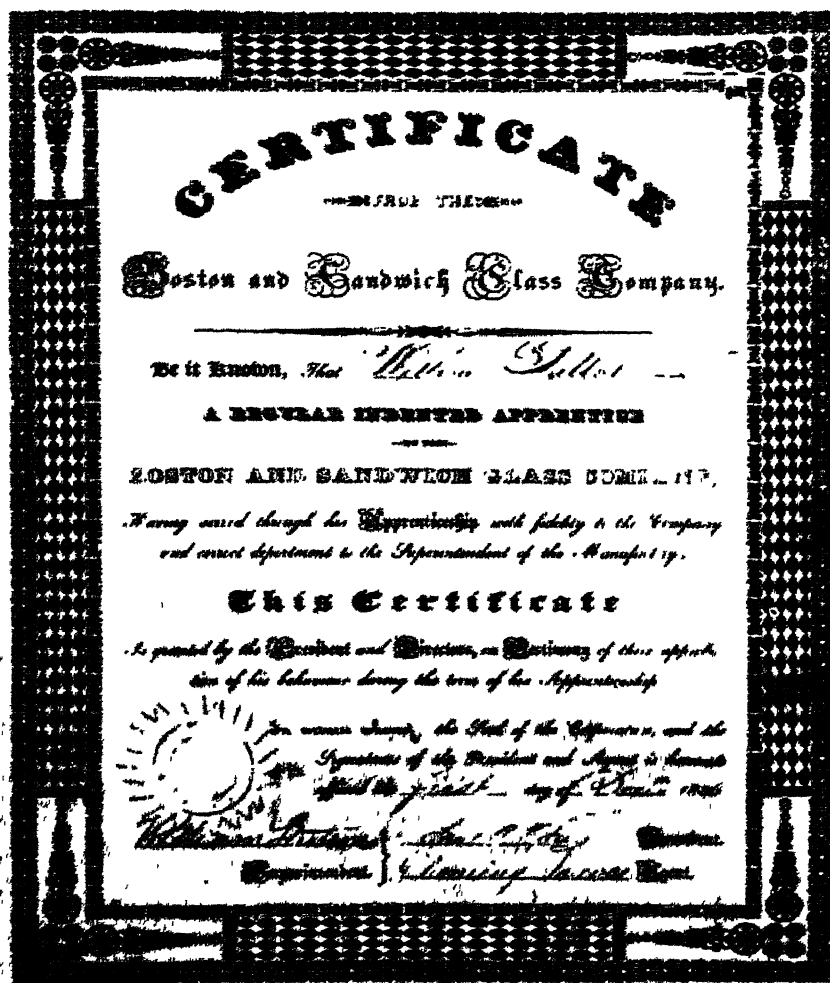
The Corporation, finding its investment a profitable one, enlarged the buildings and the facilities for the manufacture and embellishment of glass. It improved also conveniences of transportation for fuel and materials; developed means of mixing its own lead and refining the crude materials, and doing many other things which necessity requires and teaches the managers of a glass factory are of vital importance to success.

This was accomplished at an expense of from three to four hundred thousand dollars, taken out of actual earnings aside from regular dividends, which, with the exception of a few years, had been regularly paid. The actual expenditure for labor alone amounted to several million dollars. The greater part of this was expended in the town itself, furnishing means of support to a large number and greatly aiding the financial operations of the place.

SANDWICH POCKETS WERE FULL

For more than half a century the industry and the community thrived. Sandwich was a trading centre, a mecca for visitors, a live and prosperous town.

The Corporation—from the limited beginnings of Deming Jarves' personal enterprise, with a small eight-pot furnace, each pot of 800 lbs. capacity; with a weekly melt of 7,000 lbs. and a yearly production valued at \$75,000; giving employment to 70 work-



The only journeyman glassmaker's certificate, signed by the founder of the Old Sandwich Factory, known to be in existence now. Deming Jarves himself signed this paper which made my grandfather, William Talbot, a full-fledged glassmaker after he had served two years as a faithful indentured apprentice at two dollars and fifty cents a week. Needless to say it is one of my most prized personal possessions. The signature of Samuel P. P. Fay, at one time president of the Boston and Sandwich Glass Company, also appears on the certificate with that of Mr. Jarves, who was at that time the Company's agent and the directing genius of the Works

men—was expanded in a short time to four large furnaces of ten pots each, with a weekly melt of more than 100,000 lbs., an annual production valued at \$600,000, and an increase from 70 to 500 workers!

It is estimated that, during the half century the plant was operated, over \$30,000,000 poured into the little town of Sandwich, and in those days a million dollars was a colossal sum. Even today the old Boston and Sandwich Glassworks would rank as no mean enterprise.

The glassmakers seldom left town in quest of pleasure, finding the fishing and gunning of Sandwich lakes, streams and woods preferable to the allurements of an outside world. With no movies, autos or radios and few of the modern devices that furnish the trail for nickels and dimes, the workmen and their families applied most of their surplus money to the establishment of homes and savings accounts.

Local merchants were largely favored in the purchase for family needs, and payments were made regularly each Saturday night. Every farmer found a constant market for his products at the homes of the glassmakers—not only vegetables, butter, eggs and milk, but firewood which for years was the principal fuel.

Hay that was unsuitable for cattle and horses was readily sold to the Company for use in packing the glass for shipment.

NO SALESMEN WANTED

The method used by the Sandwich Factory for disposing of its products sounds rather odd these days. Its very simplicity was remarkable. The management employed no salesmen for the road and did no advertising. They turned out their goods as fast as the furnaces would allow and stored them, having sometimes

as many as 17,000 packages of glass in stock. Then, twice a year, in the Spring and Fall, the goods were shipped to New York and sold to jobbers. Later, sales-rooms were established in Boston.

It is recorded that an auction sale of glass on April 4th, 1856, at the Boston and Sandwich Factory, amounted to more than \$100,000 for that one day. The largest purchasers were from New York, San Francisco and Montreal.

There was always a ready market for Sandwich glass. The Factory ran at full capacity in times of low prices so that when prices rose the Company always had on hand a good supply of glass that had been produced as cheaply as that of any competitor. Experience had taught them that to run at less than capacity increased the cost of the product.

ORDERS FROM THE WHITE HOUSE

As early as 1840, the Boston and Sandwich Glass Company was recognized as the leading concern in America in the glass industry. This fact is attested by the record of orders for special and elaborate requirements.

The White House at Washington was supplied with its choicest of tableware, lamps and domes. Chandeliers, candelabras, vases and other ornamental glass creations were especially designed and made for homes and institutions. Sandwich exhibits shown at the 1876 Centennial in Philadelphia were awarded first prize.

Uninformed writers too frequently have drawn upon their imaginations or relied upon false information concerning the quality and variety of glass made in the Sandwich Factory. Consequently many people still are under the impression that only a cheap grade and a limited variety were produced. I have often

been told by interested visitors that they were surprised to learn that colored glass, milk white glass and overlay glass were made in Sandwich. Quite the contrary is true; in these very lines Sandwich surpassed.

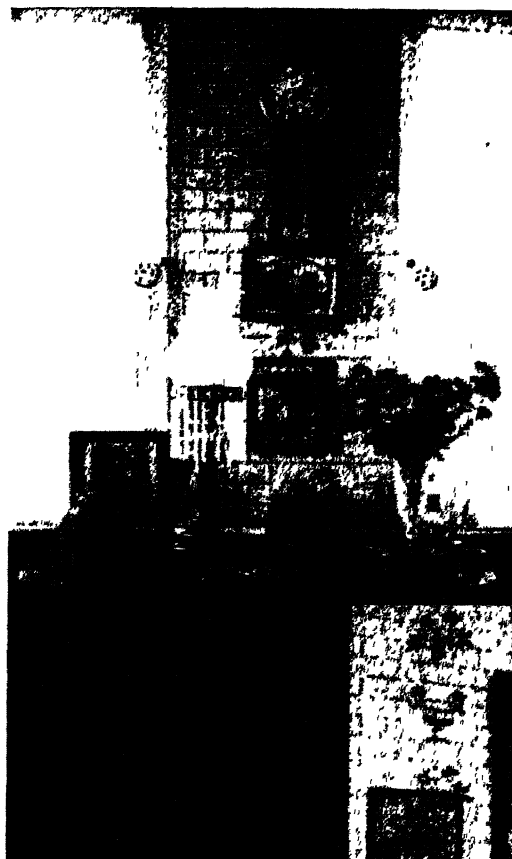
THEY WERE GOOD COOKS

The first requisite in the production of quality glass, whether old or modern, was and is the selection of proper ingredients for making the metal. The next step relates to correct proportions for the mixture. Extremely important also is the matter of "cooking". Sandwich glassmakers excelled at their calling but like all good cooks they naturally turned out a "batch" once in a while that was not quite uniform.

Some years ago I had occasion to ask an old glassmaker how he could account for the fact that, among a number of Sandwich goblets, all of which were genuine old specimens, some had a brighter sheen and a more resounding ring than others. Here is the answer he gave me:

"No doubt in your boyhood days your mother made the bread which the family consumed. Now, did you ever hear her complain on some occasion that the bread did not turn out as well as usual? Did she not explain that she used the same brand of flour, the same kind of yeast cake and the same cow's milk? Did she not guess that the trouble was the oven was too hot or that the fire in the stove got low, and therefore the bread was not properly cooked? Well, that's just what happened to the inferior glass articles you find. The ingredients and the mixture were just as usual, but the furnace was too hot or too cold."

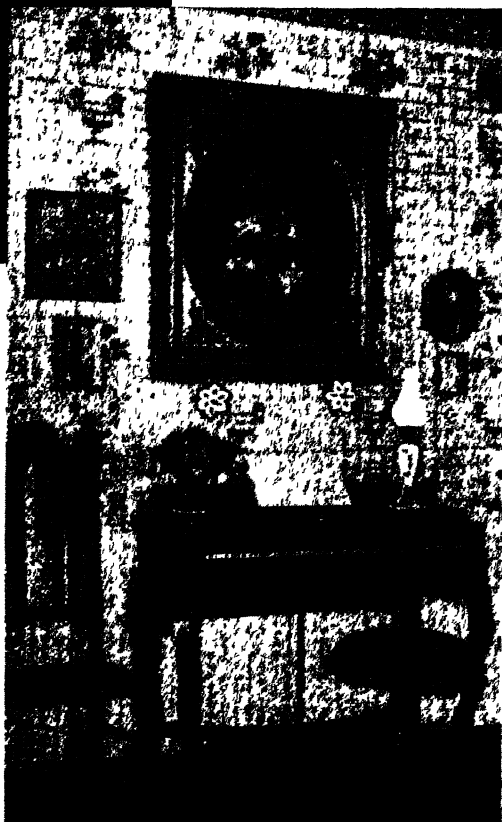
So collectors need not be dismayed if some of their specimens have greater resonance or brighter lustre than others.



OLD SANDWICH
GLASS IN A FITTING
SETTING IN THE
CAPE COD HOME
OF MR. AND MRS.
BENJAMIN R. POL-
LOCK AT WEST
YARMOUTH, MASS.

*Above—An Old Sand-
wich lamp with dan-
glers and engraved shade
and a Sandwich Glass
vase in the Grant pat-
tern. The window cur-
tains are held in place
by a pair of opalescent
curtain knobs*

*At right—An Old
Sandwich whale oil
lamp, a ruby and flint
glass pitcher and a pair
of opalescent picture
knobs*



THE "GLORY HOLE"

Oak wood was used for the liers or ovens, and pine wood for the furnaces. The wood was split the entire length of the cord stick (three and one-half feet) with a thickness of about an inch in diameter. It was placed in an oven until it was sufficiently dry to ignite from a candle. This drying process is not unworthy of note. The wood was piled high on a brick floor in an arch with iron doors in front so constructed that the flames could play up behind the wood.

The strange thing about this oven was that the wood never became ignited. When the water was all drawn out by this process the wood was darted, stick by stick, into the eye of the furnace, known as "the glory hole". This method was used for years, until coal fuel came into use.

THE BULL - WAGONS

In those days in Sandwich a common sight on the roads was the "bull-wagons", each having two yoke of oxen, one horse and a teamster. The Factory kept four of these bull wagons in operation. Two loads of pine wood were brought to the yards every other day, with the exception of Sundays, and on the intervening days, one load each, aggregating twenty-four cords a day.

Pine forests were abundant. The "giant branches" were doing their bit of service. No government enactments pertaining to deforestation brought distress to the hearts of the manufacturers. Note the contrast here between this condition in Sandwich and that in England when the edict went forth concerning forests. In the Seventeenth Century in England was issued "The Proclamation Touching Glasses", which read: "Rather

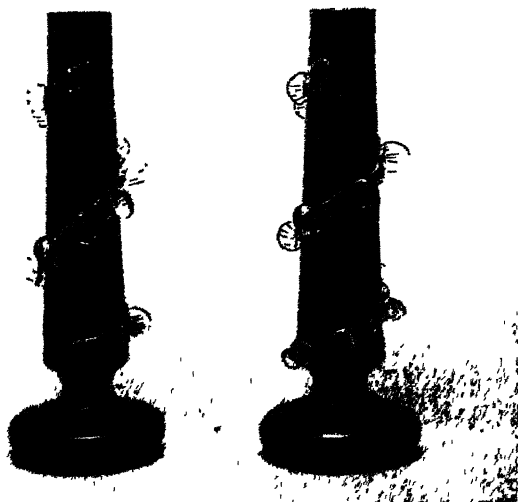
than lose the wood (so important to ship building) it were the lesser evil to reduce the times into the ancient manner of drinking in stone, and lattice windows, than to suffer the loss of such treasure." There was no such cry in our country to bar wood from utilitarian purposes in order to build men-of-war.

Later, however, the Company experimented with other kinds of fuel for the "glory holes". For instance, in 1850 they tried resin and had it on hand in such large quantities that at the beginning of the Civil War 700 barrels were sold to the Federal Government for \$44 a barrel. As the resin had cost only 62 cents a barrel it is reasonable to suppose that the directors had an eye to "the main chance". Shortly after the Civil War, when the Factory erected its own gas plant for illumination, coke was used in the liers. So far as known this was the first time this fuel was employed in glassmaking.

THE HORSE RAILROAD

Transportation was a big problem in the early days of the Factory. There were no railroad facilities until 1848. The harbor was choked with sand and was situated a half mile from the plant. The channel of the creek from the Factory to the harbor, through which vessels were reached by scows, was so tortuous that it occasioned great inconvenience, particularly in winter. This little channel in later years was used only by fishermen to go back and forth in their dories to their nets or to unload their larger craft at the fish houses.

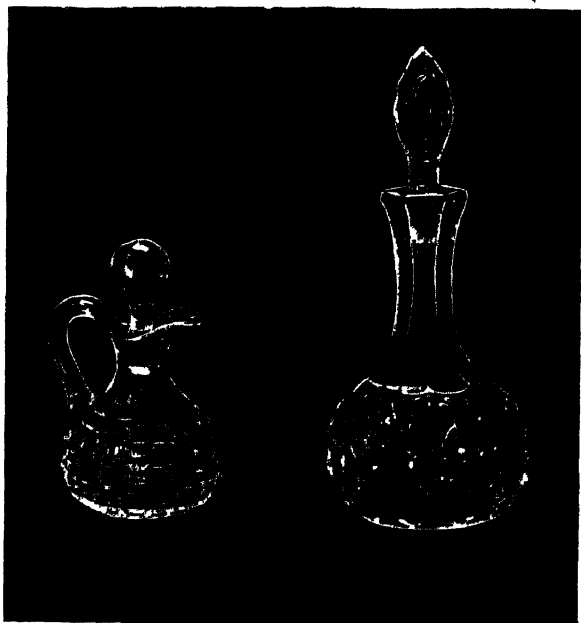
In 1827, a horse railroad was built across the marsh to the water. It cost the Company less than \$400, for labor and material were cheap in those days. This railroad was said to be the first of its kind ever



*Ruby vases
with spiral
flint ribbon*

PIECES FROM THE CHIPMAN FAMILY COLLECTION

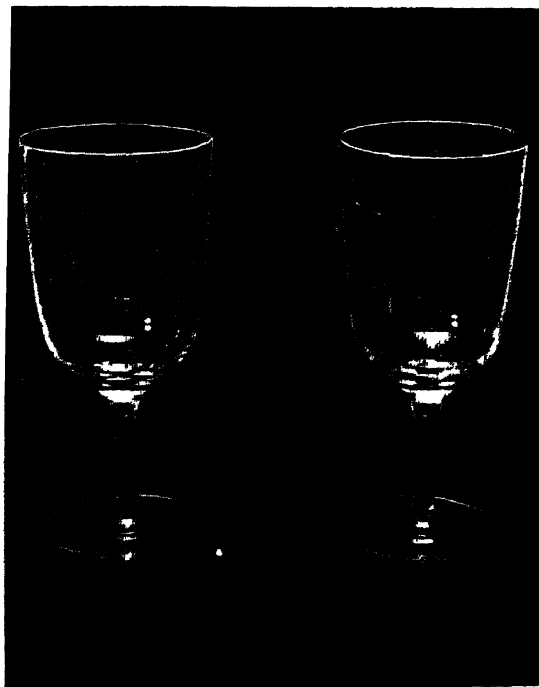
*Small
jug
in
Block
pattern
and
cruet
in
Raised
Diamond
design*



*Sapphire
jugs with
flint handles*



MORE PIECES FROM THE CHIPMAN COLLECTION



*Blown
engraved
goblets
from
a set
which was
my father's
wedding
present
to my
mother*

built in this country and it excited much curiosity and comment throughout the United States. It was used for transporting the lighter materials. Heavier stuff, which came in big vessels, was trans-shipped by lighters via a canal dug through the marsh up to the Factory wharf. This channel cost the Company something like \$12,000, although aided by two days' voluntary labor by the citizens of Sandwich.

In 1848 the steam railroad was built through Sandwich but rates were prohibitive, and in 1853 the Company built a steamer, *The Acorn*, which brought light supplies and sometimes passengers from Boston. Later the railroad came to terms and the valiant *Acorn* was sold to the government and eventually lost off the Virginia Capes.

WORLD-WIDE FAME

As time went on and the business expanded, the plant was enlarged and equipped to handle adequately the ever-increasing demand for its products which gained world-wide fame as quality glass.

In 1853, by special act of the Massachusetts Legislature, the capital stock of the Company was increased to \$600,000. Six years later, in February, 1859, it was decided by the directors to reduce the capitalization to \$400,000, and legislation was sought and obtained to that end.

The plant ran twenty-four hours a day and the hours were divided into shifts. One quota of men worked from one in the morning until six in the morning, and one in the afternoon until six in the evening, while another group worked the intervening hours. There was one hour between shifts and a short period for meals. But this was for only four days a

week. The plant closed on Friday morning and remained closed until Monday morning.

When the works first started, there were five shops. Wages were as follows: The gaffers received from \$14 to \$17, weekly; the servitors, \$14; the foot-makers, \$6; and the boys, \$3; for unskilled adult work, blacksmiths, wood-driers and laborers, \$6.

During the last twenty years of the Factory's existence as an operating plant, these wages were increased about one hundred per cent.

BOUNTY FOR THE BOYS

The boys employed worked ten hours a day and attended the village school in either the morning or afternoon. These boys were allowed to work glass in their spare time and so had an opportunity to learn the business. If a boy turned out a creditable piece of glass, the cutters would cut and present it to him by way of encouragement. Every boy received a present of fifty cents for firecrackers on the Fourth of July. This kindly spirit seems to have prevailed throughout the entire organization, due, without doubt, to the nature of the man who controlled it.

In cleaning, smoothing and polishing glassware in the Factory, wooden brush wheels with bristles several inches long were used. When these bristles were worn down, the wheels were discarded and it was the privilege of every boy in town to go to the Factory Yard and help himself to these wheels. Most of us took at least four and, with home-made axles and wooden boxes, we made our carts.

Thornton W. Burgess, the well known author of *Peter Rabbit* and *Bedtime Stories*, a native of Sandwich, while attending the public schools made his rounds of the Sandwich Glass Factory twice a week

This Indenture Witnesseth,
That Peter Neiter of Sandwich County
of Barnstable State of Massachusetts

doth by these presents bind

John Nokel
And with the free will and consent of the said John Nokel
henceforward as Apprentice to Sewall McHafenden agent in behalf
of the Boston & Sandwich Glass Company

to learn the art, trade or mystery of Flint glass cutting
and with him, the said John Nokel after the manner of an Apprentice
to serve from the day of the date of these presents until the first day of
March, which will be in the year of our Lord one thousand eight hundred
and seventy one, when the said Apprentice shall arrive at the age of twenty one
years. During all which time, the said Apprentice his said Master well and faithfully shall serve, his secrets
keep, and his lawful commands duly obey. He shall do no damage to his said Master, nor suffer it to be done
by others, without giving reasonable notice thereof to his said Master. He shall not waste the goods of his said
Master, nor lend them unlawfully to any. He shall not contract matrimony within the said term, nor shall
he commit any act of vice or immorality which are forbidden by the Laws of the Commonwealth, but in all
things, and at all times, he shall carry and behave himself towards his said Master, and all others, as a good
and faithful Apprentice ought to do, during all the term aforesaid.

And the said Sewall McHafenden agent in behalf
of the Boston & Sandwich Glass Co. doth hereby covenant and
promise to teach and instruct, or cause the said Apprentice to be instructed in the art, trade or calling of
Flint glass cutting by the best way or means that he may
or can, if said Apprentice be capable to learn, and during the said term, to find and provide unto the said
Apprentice, good and whole some food & clothing.



In Testimony whereof, The said Parties have to this and one, with their true, of the same year and
date, hereunto set their hands and seals, the sixteenth day of September
in the year of our Lord one thousand eight hundred and sixty seven

Geo L. Hapenden
Charles L. Hapenden

Boston Sandwich Glass Co.
per Sewall McHafenden Agent
J. P. Norton

Indenture certificate signed by John Nokel when he was
apprenticed to learn the art of flint glass cutting at Sandwich

in the early eighties and sold candy, which his mother made, to the glassmakers for one cent a stick. Burgess, and numerous other boys of his school days, including myself, made frequent trips to the old Factory Yard in quest of the brushwheels.

THE APPRENTICESHIP SYSTEM

The glassmakers of the early days of the Sandwich Factory came from England and Ireland where glassmaking had been a long established industry, by virtue of which these workmen were skilled and experienced in the art. Later, some came from France, Germany and Belgium.

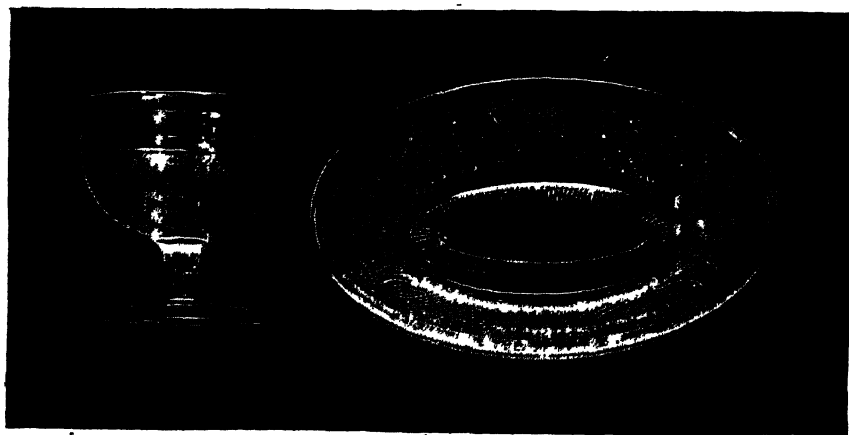
The servitors, footmakers and boys required to assist these skilled artisans were employed from the local community. These helpers, who entered the Sandwich Factory with the intention of becoming competent glassmakers, were required to become indentured apprentices to the Company for a period of two years. Faithful and earnest application of time and talent was exacted as well as correct deportment toward the superintendent and fidelity to the Company. These conditions complied with, the apprentice became an accredited journeyman glassmaker at the end of two years.

This system was established and operated without difficulty and as a result the succeeding years developed the necessary number of finished workmen to provide the Sandwich plant with such high grade talent as its growth demanded. Probably no one thing contributed in greater measure to the success and prestige of the Boston and Sandwich Glass Company.



Morning Glory compote which is in the Sandwich Historical Society collection—a very rare piece

Oval lace glass dish in Shield pattern and stippled sugar bowl in Grape pattern. Owned by Mrs. W. Hubert Wood



PRESSED WARE DISTINCTIVE

While Mr. Jarves established his Sandwich Factory, in 1825, as a glass blowing plant, in conformity with the universal method of commercial glassmaking at that time, it is important to keep in mind the fact that the Sandwich Glass which became famous and distinctive was the pressed ware. This, in large measure, superseded the blown glass after 1830.

It is sometimes said that the method of pressing glass was discovered in this country but Deming Jarves, writing in the year 1865, states that "fifty years back," he imported from Holland salts made in metallic moulds, and from England glass candlesticks and table centre bowls. The fact is, however, that the Old World glass industry made very limited progress in moulding glass and failed to put this method on a really productive basis.

During the first five years of the Sandwich enterprise, considerable experimentation was made before a workable and productive plan of moulding glass was perfected. In 1827 a pressed tumbler was produced but it was unsatisfactory due to the faulty mould.

THE FIRST PIECE MADE

A pungent or smelling bottle was shortly afterward moulded, sufficiently perfect to be accredited as the first real pressed article made in the Sandwich Factory. It was incidentally the first piece of pressed glass made in America. This bottle was presented to Charles Waterman, a purchasing agent of the Company and the Aqua Homo of our story, who kept and cherished it through his life.

In the early thirties the moulding process was wonderfully perfected and in 1835 a set of glass plates of varied size was shipped to England. It is recorded that the style and finish of this consignment astonished the trade.

In the Sandwich Factory the glass was pressed in metal moulds with the figures cut in the plunger. The blown-in-the-mould method was tried with wooden moulds and was unsuccessful because the molten glass ignited the moulds. It is said that a carpenter originated this idea of the wooden mould and Mr. Jarves gave it a fair trial. Necessity fathered the introduction later of moulds of steel, iron and brass. These were made in sets, the lower dish having a pattern traced upon its surface. Into this receptacle was poured the molten glass and a second steel dish or plunger was pressed down upon it.

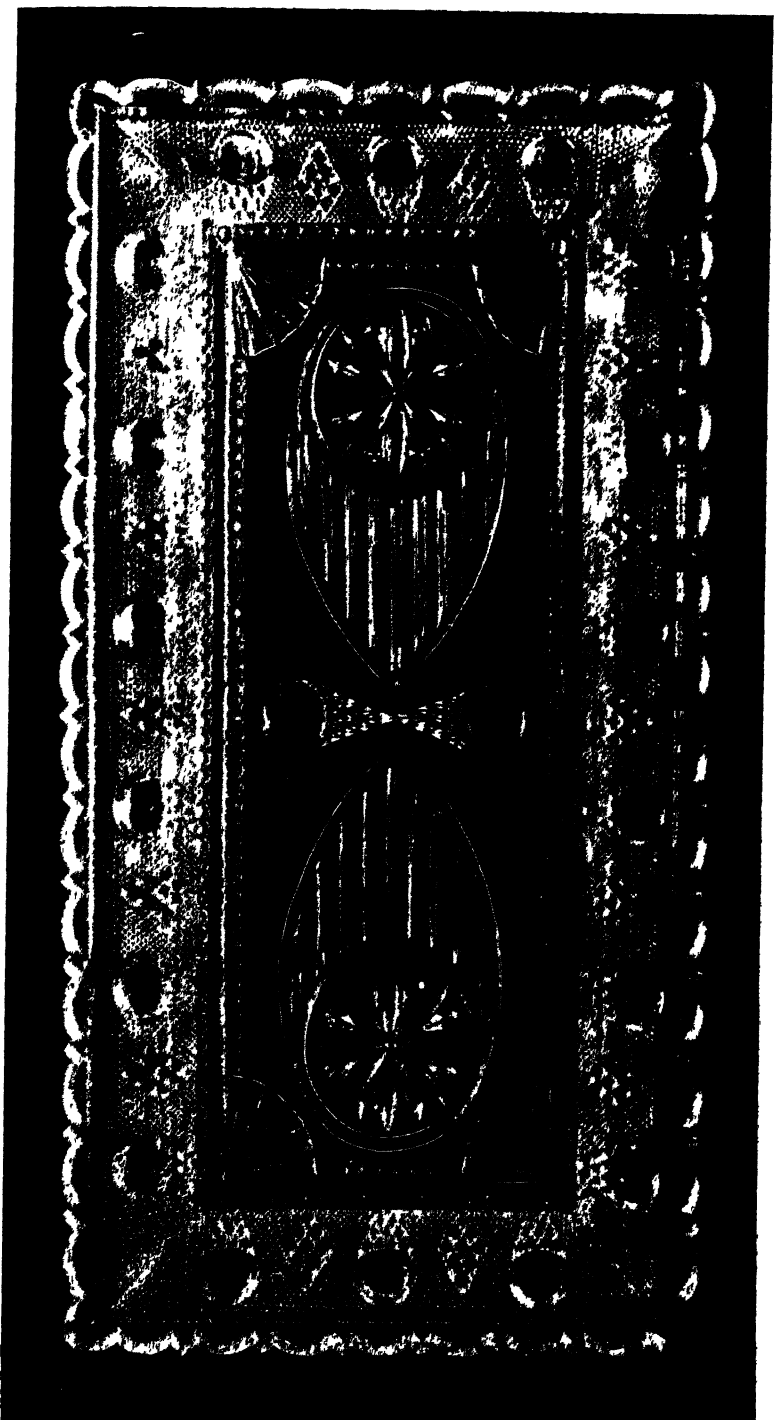
From the beginning there was an ever-present spirit and ambition among the Sandwich glassmakers to achieve greater things, and this inspiration was encouraged and stimulated by the officials to the end that rapid progress was made in the construction of moulds and the production of high grade glass.

THE EARLIER PATTERNS

The earlier patterns were of old Irish and English designs, as the first workmen came from those countries, but, later, designs of a distinctly American tendency were originated, equally lovely in beauty of sentiment and form.

Lace glass was originated in the Boston and Sandwich Glass Factory about 1835. This lace glass is superior to any pressed glass ever made, not only in the excellence of quality of the metal but also in the marvelous construction of the moulds. Some com-

Old Sandwich Lace glass tray in Shield design with Fan corners and typical Sandwich scalloped edge. The centre is in the Star pattern combined with a conventional design. Period 1835



pound was used in mixing the metal which brought a silvery sheen to the glass which was never equalled in any other factory. The designs were of extreme fineness and very beautiful, giving the pattern a frosted, lacy appearance. These lace articles are easily the aristocrats of the Glass Kingdom.

There seemed never to be any monotony of form or design in these glass objects; indeed, the imagination that conceived them was quite as ductile as the substance on which it operated.

Realizing that the moulding process provided the opportunity for intricate and exquisite patterns, which could not possibly be produced by the blowing process, it can readily be understood why the Sandwich Factory developed the pressing method and captured the glass market ahead of competitors.

THE ORIGIN OF ODDITIES

The workmen in the early days were allowed, when they had finished a "move" (all glass was made in "moves") to make things for themselves during the time between that move and the next one, an hour or two perhaps. This accounts for the miscellaneous quantities of glass bibles, paper weights, boots, shoes, pipes, bellows, smugglers, canes, rolling-pins, hats, barrels, flatirons, and the like, that are found in Sandwich homes.

In later years, the men were still allowed to make things for themselves but they were obliged to pay for the glass. For instance, if a man wanted a lamp for his home, when it was finished it was sent upstairs and weighed and the workman would pay for the weight. As glass was about fourteen cents a pound, he could even then acquire a lamp very cheaply. So in these Sandwich homes men were accumulating little

objects of glass made for use as well as amusement during spare hours.

The fine old paper weights with their vari-colored centres of fruit, floral and conventional designs were not a commercial output of the Factory but rather fanciful creations of the workmen for ornamental purposes. These colorful centres were made at the homes of a few skilled artisans during long winter evenings by means of an alcohol lamp, a small blow pipe and slim rods of colored glass. The finished centre was then taken to the Factory, reheated and cupped with a gob of plain glass.

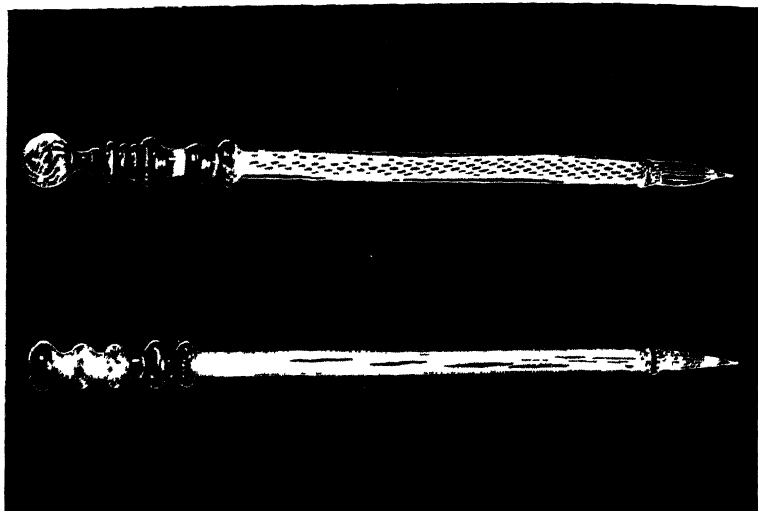
In 1880 a special committee of the Massachusetts Legislature visited the Sandwich Factory for the purpose of inspecting the plant and witnessing the actual operation of glass making.

Edward Haines was requested to make a lamp with a handle. He gathered a gob of metal, shaped the bowl and foot and attached three handles in less than two minutes for the edification of the solons present. This freak lamp was then presented to the chairman of the committee as a souvenir of the occasion.

A favorite whimsey of skilled workmen for home

A Peach Blow tumbler, a Black Bear match box and a Pansy paper weight—Old Sandwich specimens





Glass pens from the Chipman family collection, which illustrate a type of the famous threaded ware

adornment was a colored flask, or as it was called in the early days a "smuggler." These were made in pint and half pint sizes of flint glass with threaded or lineal bands in milk white, pink, ruby or blue shades. Two and three colors were often used.

AND STILL IT GREW

The first five years of operation convinced Deming Jarves and his associates that the Sandwich Factory was destined to become a large and remunerative industry so it was planned again to enlarge and equip the plant to meet the requirements which their vision commanded.

Not only were more furnaces built and additional men employed but facilities were added for furnishing the industry with all of the required accessories.

A separate building was erected for making the barrels and casks that were used in shipping the glass.

The staves and hoops were brought to the Factory by boat and the casks were assembled by a force of seven men in the Cooper's Shop.

There was also the Blacksmith's Shop where another crew turned out the iron and steel plates upon which the glass was rolled and shaped by the blowers. Here also moulds were repaired, tools made for the glassmakers and all metal work carved.

The Carpenters' Shop employed a number of men who were constantly busy making and repairing benches, racks for the glass, and attending to various repair and construction work in wood.

Another large unit was the Packing House which kept a force of workers constantly busy. Large bins were constructed for storing the packing-hay, many tons of which were secured during the summer and fall months from the farmers for packing the glass

A flint Dolphin set picked up by Mrs. Edna Clark



that was shipped to all parts of the civilized world.

The Pot Room, so called, was established as an important factor in the industry. In this department the clay was mixed and trodden for days by barefoot men until the mixture was ready for heating and shaping into pots. Into these clay receptacles the ingredients for making glass were poured and heated from the furnace until the molten mass was properly "cooked" and ready for blowing or pressing into various forms or shapes of finished glass.

The pot makers in the Sandwich Factory were always busy, for pots cracked frequently, and new ones must always be on hand to replace the damaged ones. The approximate expense for each pot was reckoned "anywhere between fifty to one hundred dollars." The capacity of each pot was fifteen hundred pounds.

THE OLD GAS HOUSE

Another early improvement, due to Mr. Jarves' foresight, was the erection of a Gas House in the Factory Yard, where gas was generated and supplied to the different departments of the plant and to many stores and dwelling houses in the town as well.

The Old Gas House served another purpose than generating light, one quite unique and apart from the common use of gas for illuminating. I refer to a custom which prevailed for years, that of allowing every boy or girl in the town who had whooping cough to spend an hour a day in the tar room inhaling the fumes. I am unable to furnish information as to who was responsible for the adoption of this practice nor can I explain the theory, but I am a living example of one who survived the ordeal and questioned, then as now, the benefit as compared with the torture.

GLASS WITH A SOUL

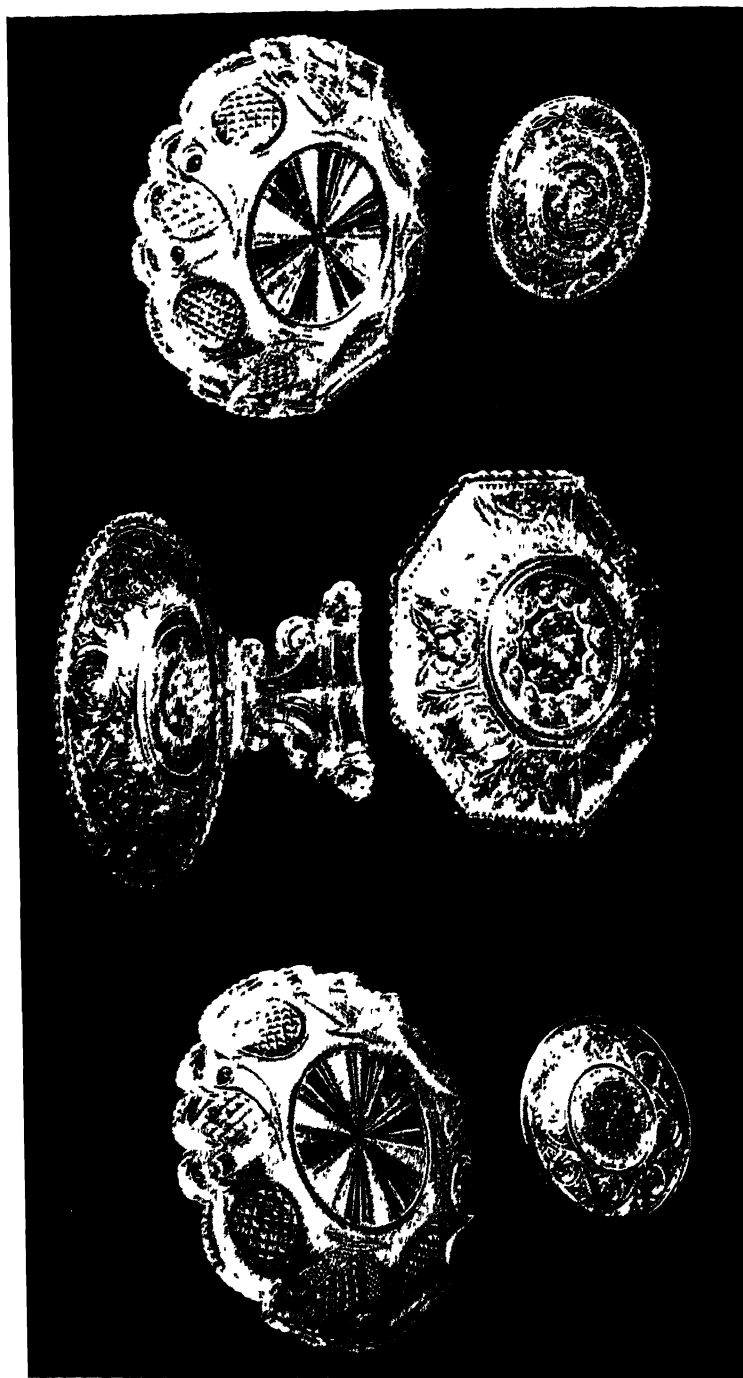
Deming Jarves, born in Boston, of English parents, possessed an indomitable zeal for an education that would enable him to sustain himself in the walks of life to which he aspired. With the natural energy of a mind that fully developed itself as the busy scenes of life opened to his view, he did attain it.

In the early dawn of manhood he became a partner in the crockery business in Boston under the firm name of Jarves & Henshaw, which came suddenly to a close during the great business crisis of 1818-19. He then became connected with the New England Glass Company while it was in its infancy, acting as its agent until 1824.

Endowed with keen business instinct and a remarkable power for grasping the practical phases of production, Mr. Jarves, during his limited experience with the New England Co., was able to envision the future possibilities of the glass industry. In fact, his early venture in Sandwich may well be designated as the foundation of that industry in pressed glass-making. The rapid growth and development of the Sandwich plant was the concept of Deming Jarves.

There was another and softer side to his nature. During the hard times of 1840, the Company gave the rents to its tenants. Mr. Jarves himself opened a store and furnished all the actual necessities of life to those who were not able to supply themselves; and for years his annual gift at Christmas time to the widows of former workmen was a barrel of flour.

These humane acts attest in part the very fine nature of the man, his deep sensibility, and the sentimental turn of mind which his writings portray. Jarves himself was a part of the Romance of Glass. He saw the poetry in his product. Glass to him



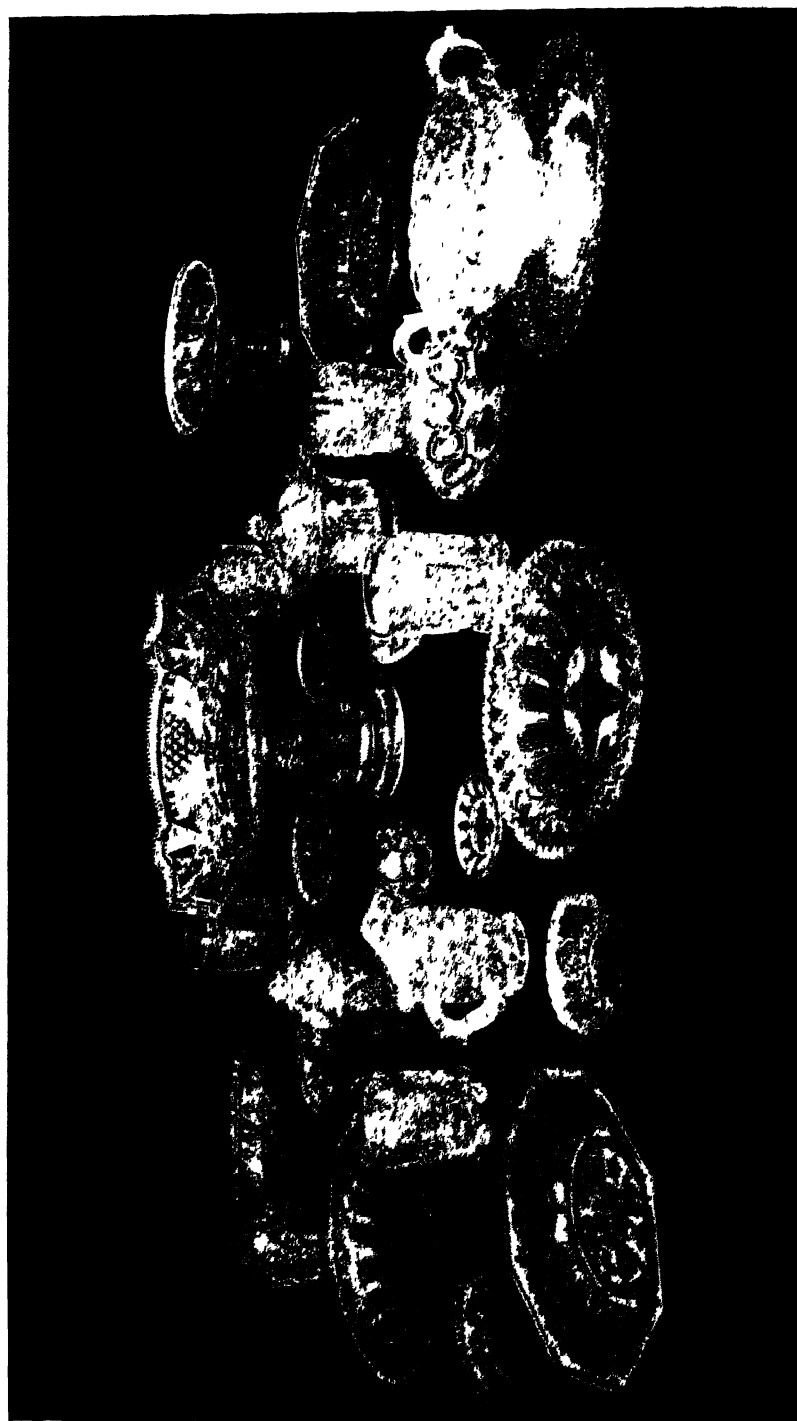
Six of the finest specimens of Old Sandwich Lace glass. Owned by Mrs. Walter P. Wright of Brookline, Massachusetts. The three lower pieces are in the rare Eagle design. The pair of Peacock Feather dishes are typical Sandwich and the compote is an unusual and exquisite gem

meant something more than a manufactured commodity, and progress meant triumph in art rather than prestige in business. The latter he seemed to subordinate to a certain ideal, the object of which was cheaper cost of manufacture that the poor might be provided with glass to beautify their homes at prices within their means.

All through Mr. Jarves' "Reminiscences" we discern that spirit of regard for his fellowman's welfare. His adjectives invariably express beauty. He chose his words with a purist's sense of their meaning. "Purity of materials" seems to have meant more to him than the mere words imply.

Frank Kern and Joseph Marsh were several times rewarded by their employer for perfection attained in metal and new color discoveries. These diligent and ambitious workmen built and operated miniature furnaces in the cellars of their homes for the purpose of experimentation. The tests made in this way were less expensive than would have been possible in the Factory but were none the less valuable and commendable. Mr. Kern and Mr. Marsh revelled in their research and contributed in generous measure to the Romance of Sandwich Glass.

There were others, many of them, in the Machine Shop designing moulds; at the Furnaces working the metal; in the Mixing Room measuring and blending the glass ingredients; in the Cutting and Engraving departments designing, creating, objectifying their ideas. Thus the Factory was operated not merely for financial gain but with an everpresent stimulus to create glass "with a soul". This I call romance; imaginative in concept, fruitful in result—blessing the toiler with contentment and crowning his achievement with merited reward.



A table of Sandwich Lace Glass. From the collection of Mrs. William Greig Walker of New York

MEN AND WOMEN WHO WROUGHT

While Deming Jarves was the guiding genius in the early days of the Sandwich Factory, the success of the enterprise and the outstanding quality of its products were in generous measure due to expert workmen identified with the conduct of the business during its sixty-three years of active operation.

Charles Lapham, my neighbor, a lovable character, known to many youngsters of his time as "Grandpa" Lapham, the man who gathered the first piece of glass on July 4th, 1825, was a noted glass-maker.

William Kern, who died a few years ago in New Bedford, at the age of ninety-two, was a recognized glass expert and for years general superintendent of the Sandwich Factory.

Others who stood high in the list of glassmakers were John Nokel, Theodore Kern, Henry Kern, Hiram Dillaway, John Lovett, Robert Matthews, Christopher Muldoon, Luther Drake, Henry Lapham, Frank Lapham, Edward Collins, Edward Haines, Nicholas Lutz, Thomas Dean, Patrick and Peter Swansey, Michael Grady, Patrick Mahoney, Freeman Swift, Benjamin Haines and Adolphe Bonique.

Following the Civil War there was a glass Cutting department established under the supervision of Nehemiah Packwood, an expert cutter and designer.

Then the Etching department was added with Frank Lapham, James Corbett and Charles W. Talbot supervising the work of acid production.

William Kern, George Lafayette Fessenden and Henry W. Spurr were the superintendents who directed the Factory operations from the end of Jarves'

reign until the close of the plant in the year 1888.

Charles Waterman was a prominent man in the Business department and James D. Lloyd was both a glass expert and a bookkeeper. In fact, Mr. Lloyd was known as a color evolutionist and his famous book of recipes was recently sold by his son, Charles S. Lloyd, to a New York museum for a substantial sum.

MASTERS OF THEIR ART

While Sandwich glassmakers were accustomed to, and capable of, producing all the varied types of articles made, many of them specialized in certain lines.

John Lovett and Robert Matthews were castor place workmen, most of their creations being of the heavier type of glass, such as large bowls, lamps and goblets.

Christopher Muldoon was an expert in making wine and champagne glasses. Nicholas Lutz was the Factory expert in the production of colored glass and the premier in producing paper weights.

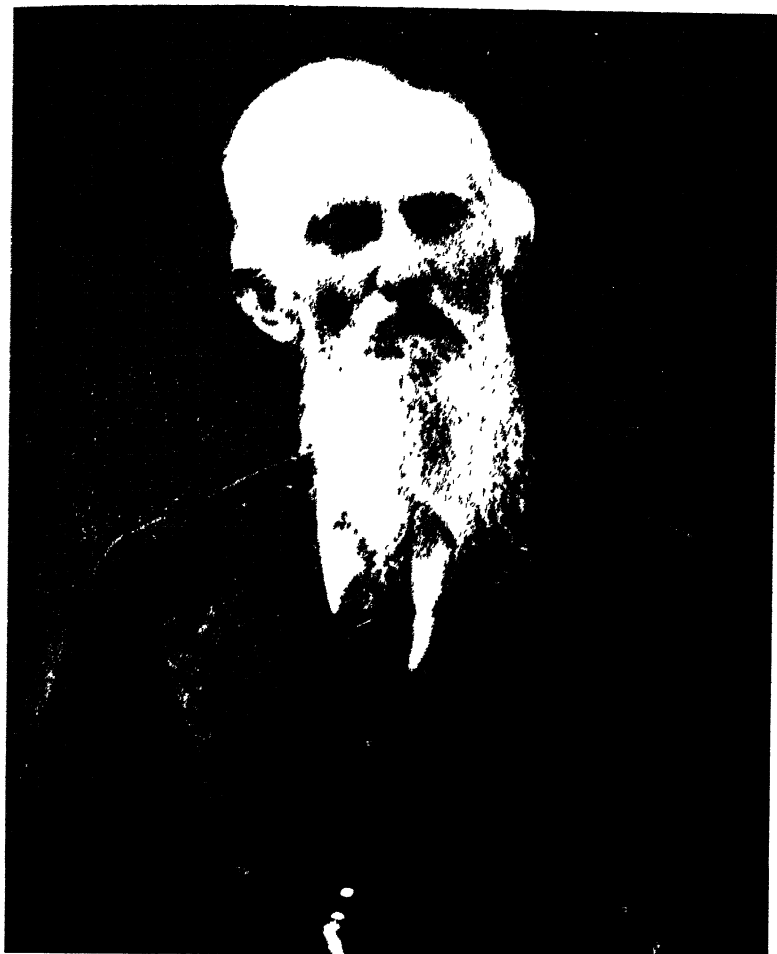
James Grady, Michael Grady, William McHugh, John T. McArdle and Mr. Lutz excelled in threaded ware.

Charles Lapham, William Kern, Edward and Benjamin Haines, Joseph Marsh and the gaffers whose names appear in the early shop records were all-round glassmakers.

Luther Drake was an acknowledged genius in making the engraved glass window-panels described in another chapter.

Thomas Martin was a wizard in turning out colored glass pipes and canes. Colored glass pens were also one of Mr. Martin's specialties.

Margaret Brady officiated as the examiner of cut



Gaffer Charles W. Lapham, the man who gathered the first piece of glass in the Old Sandwich Factory on July 4, 1825

glass for many years. It was her function to scrutinize carefully every piece of cut ware that was turned out and to determine whether the finished article was perfect.

Nellie McArdle tested the stoppers for jugs, cruets and bottles. She saw to it that the stoppers fitted.

FORTY YEARS WITH COMPANY

Henry F. Spurr, general manager from 1880 until 1888, the closing date of operation, was forty years in the employ of the Company. He began his duties as a clerk in the Boston warerooms in 1849 when he was but seventeen years old and won his way eventually to the superintendency of the Factory.

In 1859, when Mr. Spurr was married, the Company presented him with a set of glassware which included all the articles of tableware to the number of one hundred and forty-four pieces. This set was engraved in the Curtain pattern and initialed. At a fair held in the Town Hall the glassmakers of the Sandwich Factory donated a gold-headed cane to be awarded the most popular citizen of Sandwich. Mr. Spurr received the highest number of votes and won the cane. This cane is now the property of Frank Spurr, his eldest son.

The set of glassware given Mr. Spurr as a wedding present has been divided between his four children, Frank Spurr of Boston, Eliot W. Spurr of Melrose, Russell Spurr of Brookline, and Mrs. Frederick Caulkins of Medford. Each also has a special toilet bottle of Sandwich Factory creation with a photograph of the owner, as a child, placed on the side of the bottle beneath a glass medallion.

The name of Frank Lapham recalls to mind an incident which throws light on the spirit of those days in Sandwich. The people always met returning long-distance travelers with a brass band. This incident shows that the Factory was very near to the hearts of all, that it was a vital interest in their lives. Mr. Lapham was sent to England to learn the art of etching on glass. On his return trip the boat stopped at Queens-town and the people of that place came on board with

things to sell. Lapham bought a sprig of mistletoe. When he arrived at Sandwich, the brass band was at the station to meet him. There was a church fair in progress and he was escorted to the fair where he gallantly presented the mistletoe to Miss Eliza Murphy, who auctioned it off for eighteen dollars.

THE FRATERNAL SPIRIT

And here we may insert a testimonial as it was reported in the local newspaper in 1860, which carries out this idea of the fraternal spirit that prevailed among the Sandwich workers:

Mr. George L. Fessenden, paymaster of the Boston & Sandwich Glass Co., in this place, was highly complimented by the workmen in that manufactory, on Wednesday, by the presentation of an elegant service of silverware, as a testimonial of their appreciation of the urbanity and gentlemanly courtesy which have characterized his demeanor while discharging his duties in that capacity, and for his uniformly accommodating and manly treatment of the operatives at all times and seasons.

The ware, which is of a very chaste and neat design, the knob on the cover of the sugar bowl representing two elegantly carved aerons, comprised three pieces, a sugar bowl, cream cup and finger bowl, each of them inscribed as follows:

Presented to
GEORGE L. FESSENDEN
By the workmen of the Boston
and Sandwich Glass Co. as a
token of respect and esteem.
February 22nd 1860

The service was purchased of Messrs. Bigelow Brothers & Kennard, Boston, and cost about \$110. In

making up the sum required to purchase it, the contributors were limited to fifty cents each. During the last few days, the ware has been on exhibition at the Post Office, attracting the attention of every one by its beauty and artistic finish.

The presentation was a matter of surprise to Mr. Fessenden, who on some frivolous pretext was invited into the Cutting shop and in the presence of and surrounded by over three hundred of the operatives, was addressed by Mr. James Ingraham, in presenting the valuable gift, as follows:

"Mr. Fessenden: Summoned thus—unexpectedly to yourself—into this company, the inquiry naturally arises in your mind, 'What is it all about?'

"But, sir, if you have any apprehension as to your personal safety, and if one may speak for the host of your wellwishers, I would say, 'do thyself no harm', for we are not half of us here.

"It is true, as you look around on this company, your eye may light upon here and there a 'blower' or a 'cutter', yet we assure you there are none here to 'blow' coldly upon you, or to give you any 'unkind cut' nor any disposed at all to 'cut' your acquaintance.

"But aside from this random talk—as I was thinking of the occasion that has now brought us together, it occurred to me how mutually dependent we are upon each other (and how prone to forget that dependence) for much of the happiness of life; and how many of the rough and thorny places of life's journey may be made comparatively smooth and pleasant by the general cultivation of the spirit of courtesy and kindness.

"A kind word—the friendly greeting—any manifestation of fellow feeling will find a response in the heart, though that heart beat beneath ever so rough an exterior.



The women of the Lamp Department in the Decorating Shop

The men of the Lamp Department in the Decorating Shop



"We were reminded this morning, by the merry tones of the bells, that this is the anniversary of the birthday of the Father of his Country.

"What gives the memory of Washington the place in the affections of his countrymen which it occupies today? Was he wise in council? Was he humane as well as brave in war? These, doubtless, endeared him to the hearts of the men of his own day but these were but the good tree, while at the root and underlying these was the simple fact that the law of truth and kindness was written upon his heart."

THE TUMBLER COUNT

There was native wit and humor aplenty among those early Sandwich glassmakers, many of whom, as I have said, came from Ireland. A certain gaffer and one of his workmen had a standing joke with which they used to regale the shop whenever the gaffer paid a visit.

"How many tumblers have yez there?" the gaffer would ask.

"Well, if figgers don't lie I have so many."

"How many times have I told yez they're the domdest liars in the country if yez dont place thim roight," would be the gaffer's invariable rejoinder. The shopmen laughed as heartily each time as if they never had heard it before.

OLD TURN - OUT

John Donovan, who was the grandfather of my wife, was night watchman at the Sandwich Factory for many years although he managed to carry on a farm during the daytime.

When Mr. Donovan left the plant at six in the morning, before going to his home, he made the rounds

of the glassmakers' homes, rapped on each door and shouted, "Turn out", thus preparing the workmen for their seven o'clock appearance at the plant.

In consequence of this daily performance, Mr. Donovan was known about town as "Old Turn Out."

BIBLES AND FISTS

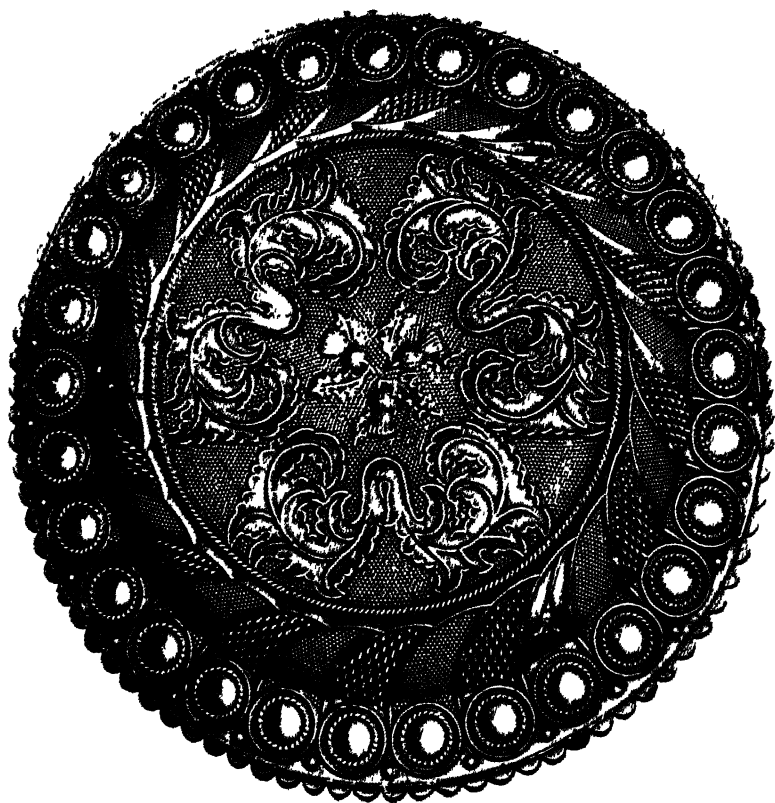
It is to be presumed that the language of the Sandwich workmen was always held within decorous bounds, for two Methodist ministers, Joseph Marsh and Benjamin Haines, were among the gaffers employed and they carried their Bibles to work each day.

Those old Sandwich glassmakers were two-fisted men, however. They raised their sons, not to seek battle but never to run from a fight if it were thrust upon them—and they countenanced no "draw" decisions. Witness this incident:

The son of one respected glassmaker played on the town baseball team. Unknown to the youngster, his dad used to attend all the games in which the boy played. Whether the lad's playing were good or bad, no comment ever had come from his father until one day something happened that "drew fire".

It was at a closely fought game; the teams were keen rivals. The boy of our story was on second base. The man at bat drove a hit over the shortstop's head and a score was certain for Sandwich. Losing his head, the rival shortstop tripped the runner as he dashed past on his way to third. The runner got up and blacked the shortstop's eye. Players and spectators rushed on the field and parted them. The game went on to its ninth inning conclusion. Who won is not material to our story. After it was over, the glassmaker's son went home to supper.

None of the family alluded to the scrap as they



*An eight-inch Lace glass plate with Peacock Feather border,
beaded edge and Thistle centre*

sat down to the evening meal. It was a large family and there was much to talk about. Our ballplayer thought he was "getting away with it" but, when a lull came in the conversation, his father looked up at him and asked quietly:

"That feller hit you today, didn't he, Tommy?"

"Yes, dad," replied Tom.

"Why didn't you hit him back?"

"I did," protested Tom. "I blacked his eye."

"He kept on playing, didn't he?" pursued his father—to which there could be no satisfactory answer.

THE MOULDS-ACME OF SKILL

Moulds and patterns are inseparable and it is unthinkable to admire a beautiful old specimen of Sandwich pressed glass and dissociate it from the mould in which it was cast. Designing and constructing moulds was indeed a very important side of the industry.

The Machine Shop, as it was referred to by Deming Jarves, was operated by men of vision, artistic taste and creative ability. In this shop the moulds were designed and constructed.

One of the early and outstanding men of this department was Clement Bassett, an early Sandwich settler. Newell Hoxie, of Old Quaker stock, was another genius in this phase of the industry. Hiram Dillaway was responsible for a number of original patterns. James Monnock, James Perry, Thomas Sweeney, John Haley and David Turpie were skilled workmen who kept this branch of the business on a high standard. These artisans were not only skilled in craftsmanship but faithful and patient in their very natures.

TOOK MONTHS TO MAKE MOULDS

The moulds in which Sandwich Lace Glass and other intricate designs were pressed were not made in a day or a week. Months were required for a single mould, as can be attested with authority. In one instance, as revealed in the letter of Deming Jarves to Daniel Webster, the mould that produced the famous "Union Bowl" required the constant services of two men for a period of six months.

Right here it seems pertinent to interpose that in America today there are few, if any, artisans trained or



Another set of Sandwich Lace Glass. From the collection of Mrs. William Greig Walker

inclined to duplicate this work. There is neither capital nor desire to produce in this painstaking way. The basic ingredients that were used to produce high grade glass in those days are too expensive for most of the glass made for everyday use in this era. I would offer this as my answer to many persons who have asked why some factory does not again produce glass like Old Sandwich.

A large section of the front of the Factory was set apart for the storage and care of the moulds. It was called the Mould Room. Numerous shelves held these valuable moulds and here they were oiled, cleaned and kept in readiness for glassmaking. For years my uncle, George W. H. Chipman, had charge of this department. Several women were always employed for this work. Elizabeth and Margaret Shields and Ellen Finn were long connected with the duties of the Mould Room.

DESIGNS CARVED IN WOOD

The designs were carved in wood and then cast in iron or brass moulds. A few were of graphite and steel. Presses were made of wood and metal, usually iron. The mould was set in the press and a plunger forced down into the mould when the molten metal was ready for the operation. The molten metal was taken from the pot by means of a gathering iron and dropped into the mould. In making the smaller articles, such as "banker's inks" (or inkwells), the metal was taken from the pot in ladles.

When the article was cooled to a sufficient degree it was removed from the mould and placed in the *lier* for further heating and cooling. When removed from the *lier* or oven the article was *listed*.

In some instances companies which purchased their glass from the Sandwich Factory furnished their

own moulds. These were shipped to Sandwich and an order was given for the making of such quantities as might be desired. The moulds were then shipped back.

When the Factory closed in 1888, the Mould Room was stripped of its contents and these wonderful moulds, which represented rare craftsmanship, mechanical ability and great financial worth were broken up and sold for junk.

From the original records of the Sandwich Factory authentic information concerning moulds and patterns is furnished in the following lists:

List of Moulds in the Pot Arch

1 gallon fluted jar—	1 gallon barrel jar—	All of the Lantern Moulds
2, 2-qt. do	—1, 2-qt. — —	All of the jugs & Decanters
2, 1-qt.	1, 1-qt. —	
	1, 1-pt.	All of the bowls & dishes of odd patterns

200 pattern

Huber pattern 2 calvary candlesticks
Star & Punty do, Salvers on feet for the same, 3 celerys

List of Moulds in the large kiln, Cape Cod & Utica

— — — — — small one Rose Leaf & Comet,

List of Moulds in Lear No. 1

All of the cruets, peppers, Mustards & Molasses jugs,
pomades, jars & covers for the same
vases, bird bath & boxes
lamps blown & pressed, founts, etc.
Medicine squares & all small bottle moulds
Nappie feet of odd patterns
Case or stopper Moulds, Knobs & inks

List in No. 2

Mount Washington pattern
Acorn, Ashburton, Mirror, Zouave,

Astor, fluted split, feather diamond,
 French flute, cross diamond,
 Patch diamond, key border,
 Bee & Star, ring, punty, Lawrence,
 Banks, ball & finger, Albany,
 2 hoop & stave beer mugs & one tumbler
 2 pillar beer mugs—1 Edwards beer mug
 5 N. York beer do, 1 short 12 flute do,
 1 patch diamond do, 3 ale glasses
 gen grant cigar holder, edge flute pat.
 bitters bottles old colony
 Shade Moulds strawberry
 finger diamond pattern, shell nappies
 sharp dia — — 6 other add. patterns
 large do do Match & all other small
 sunk do do boxes

List in No 3—Tumbler Moulds

2, setts short flute	
2, do balloon	
3, do N. York Bar	Salts
6, sets, plain, wygand albion	1 rope bottom
6, do, reverse flute	1 plain
1, do, gill fluted	1 pair Lincoln
2, do Worcester	1 pr. cone
5 do 8 flute	1 pr. key border
2 do 7 flute	1 pr. continental
2 do 6 flute	1 pr. restorater
3 do pillar	1 pr. patch diamond
1 do flute & split	1 pr. No. 85
1 do column	1 do 300
2 do finger ship	1 do 600
2 do gem	1 do 700
2 do Charleston	1 shell
1 do reeded flute	1 derby
1 do edge flute	1 Sandwich
3 do flute & reeded,	3 linings for salts
1 do gothic Bar	5 deck lights
1 do 5th avenue	2, 5 ribbed 9½ inches
1 do reed bar	2, 7 ribbed 10 "
	1, 8 do 10½ "

- 10, bowls, nappies & dishes of odd patterns
- 2 doz. handles for moulds
- 27 plunger holders for creams etc.
- 2 setts holders for wines etc.
- 3 — — — spoonholders—champagnes
- 4 — — — sugars nappies etc.
- 1 port light, $4\frac{1}{2} \times 3\frac{3}{4}$ in. square
- 1 — — 14 in. round
- 1 — — 12 in. "
- 1 — — 10 in. "
- 3 — — 6 in. "
- 1 — — $5\frac{1}{2}$ in.
- 1 — — 5 in.
- 4 lens moulds 3 in.
- 3 — — $2\frac{1}{2}$ in.
- 1 planchette

Toy Mould as follows:

- Centre bowl
- Pitcher
- Decanter
- Dish & cover
- Nappie & top
- Baisin
- Tureen
- Sugar
- Cream
- Cup & saucer
- Tumbler
- Lemonade
- Salt
- Mustard

List in No. 4

- 2 Boxes of plungers, lifting bolts, follower screws, etc.
- 1 of blockings for moulds, spare springs, etc.
- 1 of back stops & side stops for presses
- 7 crimpers
- 15 machines for setting feet
- 21 wrenches
- 52 blowing irons
- 56 gathering & punty irons

One of the Sandwich lamps in Henry Ford's collection. The stem, base, bowl and shade are all of glass. The motor magnate has shown keen interest in Old Sandwich. In his book, "Early American Lighting," he devotes considerable attention to Old Sandwich Lamps



PATTERNS AND TYPES



This compote is an excellent specimen of the Westward Ho pattern — quite rare. From the collection of Mrs. William Greig Walker

Patterns of Old Sandwich Glass were indeed numerous and varied. I have been able to authenticate no less than 158. It is necessary to study and become familiar with a wide range of standard designs made in this Factory if one is desirous of identifying Old Sandwich. In the first place let it be known that not all the designs of Sandwich origin were used on all the different glass articles made.

The cup plate designs of George Washington, Bunker Hill, Henry Clay, Cadmus, Constitution, Heart, Fort Meigs, Butterfly, Chancellor Livingstone, Lafayette, Victoria, Prince of Wales, and Benjamin Franklin are not found on other articles. The Eagle dated 1831 was confined to cup plates, although an Eagle pattern not dated is occasionally found on larger

plates and dishes. The Lyre pattern is found in mugs and salts as well as in cup plates. Dolphin stems were particularly applied to candlesticks but compotes and whale oil lamps were sometimes supported by Dolphin standards. The Bee Hive and Thistle pattern on glass plates is not to be found on goblets or other tableware.

Old Sandwich goblets exceed all other articles in number of patterns and variety of design. There are about 150 variations of size and pattern in goblets. These are found in fruit, floral, animal, scenic and conventional designs.

STANDARD PATTERNS

Standard designations in table ware, which always included goblets, are Bell Flower (five variations), Chrysanthemum Leaf, Fern, Double Fern, Inverted Fern, Daisy, Moss Rose, Ivy, Dewdrop or Pinpoint, Tulip, Primrose, Cat-o-Ninetail, Hairpin, Bleeding Heart, Acanthus, Morning Glory, Fuchsia, Acorn, Pineapple, Holly, Holly and Blue Jay, Peacock, Mul-

*Here is a compote in the
Raised Diamond or Diamond
Point pattern. From the col-
lection of Mrs. William Greig
Walker*



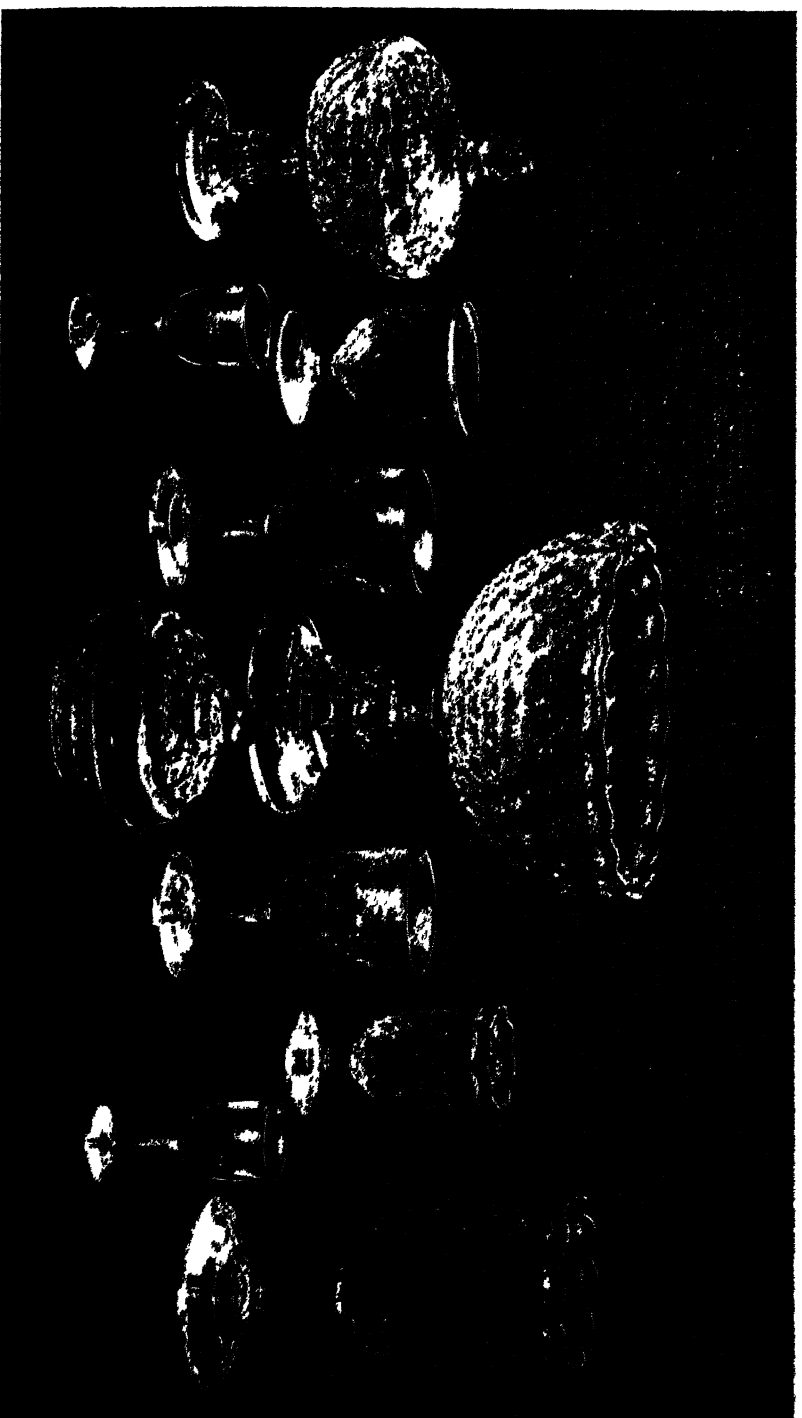
berry, Peacock Feather, Grape (five variations), Blackberry, Strawberry, Cherry, Oak Leaf, Lion, Deer, Polar Bear and Seal, Squirrel, Dog, Cat, Frog, Bear, Westward Ho, Owl, Buckle, Loop, Loop and Jewel (stippled), Shell, Fence, Lincoln Drape, Curtain, Raised Diamond or Diamond Point, Grant, Thumbprint, Block, Waffle, Cable, Bull's Eye or Thousand Eyes, Parthenon, Huber, Utica, Hamilton, Hob Nail, Sandwich or Cane Seat, Grecian Border, Centennial, Horn of Plenty (two varieties), Mitchell, Ashburton, Star and Punty or Star and Bull's Eye, Star and Feather, Shield, Fleur de Lis, Snake Skin and other conventional designs. A number of these patterns were made with stippled surface.

The Hairpin and Fleur de Lis pattern, limited to lace cup plates and cake plates, is one of the most charming creations in all pressed glass.

The Factory name for patterns frequently differs from modern appellations. The commonly designated Thumbprint, Bull's Eye, Panel and Block patterns were listed by the Company under the head of fluted ware—long or short flute identifying these types. Hamilton was the Factory name of the pattern frequently called Sunburst nowadays. Star and Bull's Eye was known as Star and Punty. Ashburton was the name given to that type of goblet with thumbprint on the lower part of the bowl and larger fluting above. The goblet with plain bowl and fluted stem was called Huber.

SANDWICH SALTS

Salts were made in shapes, sizes and designs of wide range. There was the Lafayette Boat Salt for one. It had the name of Lafayette on the stern and Sandwich in the bottom. This was the only glass article made in



The fanlike Thumbprint pattern. Collection of Mrs. William Greg Walker

the Factory that was marked with such identification.

Some very fine lace-glass salts were produced in Boat, Sleigh, Sofa and Cradle types. Heavy plain glass Colonial salts in oval and rectangular shape, some footed, were early products. Bird salts, Barrel salts with metal tops (some of these in color), salts with three faces and acid finish, and the little oval kind with small fluting complete the group. Cruets for both metal and glass castors, with engraved vinegars, salts and peppers were plentifully produced.

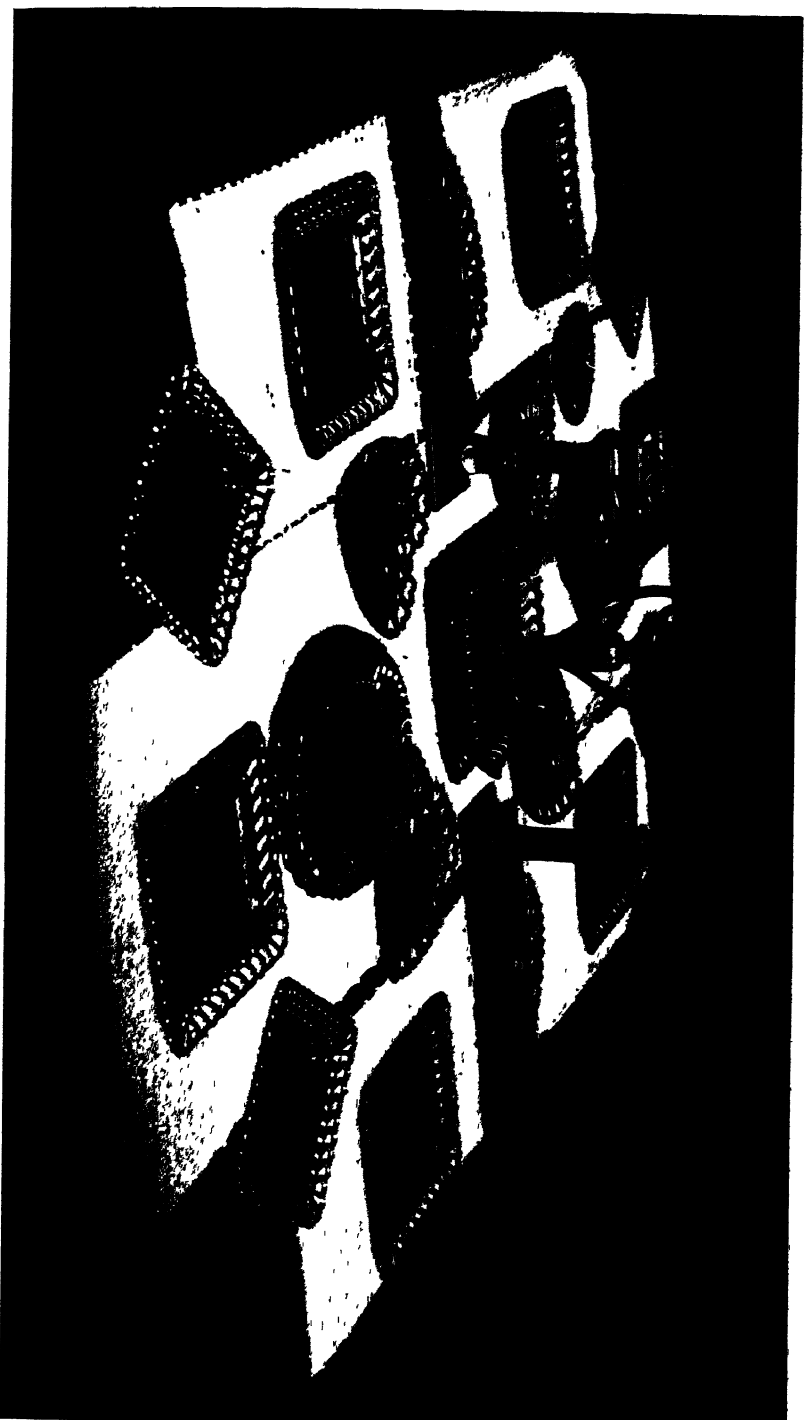
Tumblers, both plain and fluted, were turned out in abundance. Some of these were beautifully engraved. Cream pitchers, sugar bowls, compotes, butter dishes, spoonholders and celery holders (upright), as well as decanters, were constant and standard productions in the floral, fruit, animal and conventional patterns. Nappies, frequently called sauce dishes, many of which were footed, were supplied with every set of table ware.

FINGER BOWLS

Sandwich finger bowls in beautiful ruby, cobalt blue, magenta, purple and canary colors were unsurpassed. Some of these were richly engraved but most of them were without pattern.

Milk white glass was made in large quantities in general table ware. Most of this type was in Basket Weave or other conventional design though some was made in a berry pattern. A large proportion of milk white ware had open-work edges. Black glass, also with open-work edges, was produced in smaller quantity, most of it confined to cake and bread plates.

Large flint glass plates were a standard production. The Sheaf of Wheat, Liberty Bell, Grant, Garfield and the "Give Us This Day Our Daily



Rare Old Sandwich Black glass plates. Collection of Mrs. William Greig Walker

Bread" were the predominating designs in this line.

Flower vases in flint and colored glass with floral decoration were among the easily marketed articles of Sandwich make.

Lace glass dishes with covers, a few cup plates and miniature sets of table ware, in purple and sapphire blue, were choice articles of Sandwich origin.

Three-piece toilet sets in jade, blue and pink, ornamented with gold bands and hand painting, were popular articles for many years.

Lapidary and blown glass stoppers of all sizes and shapes were turned out by the thousand.

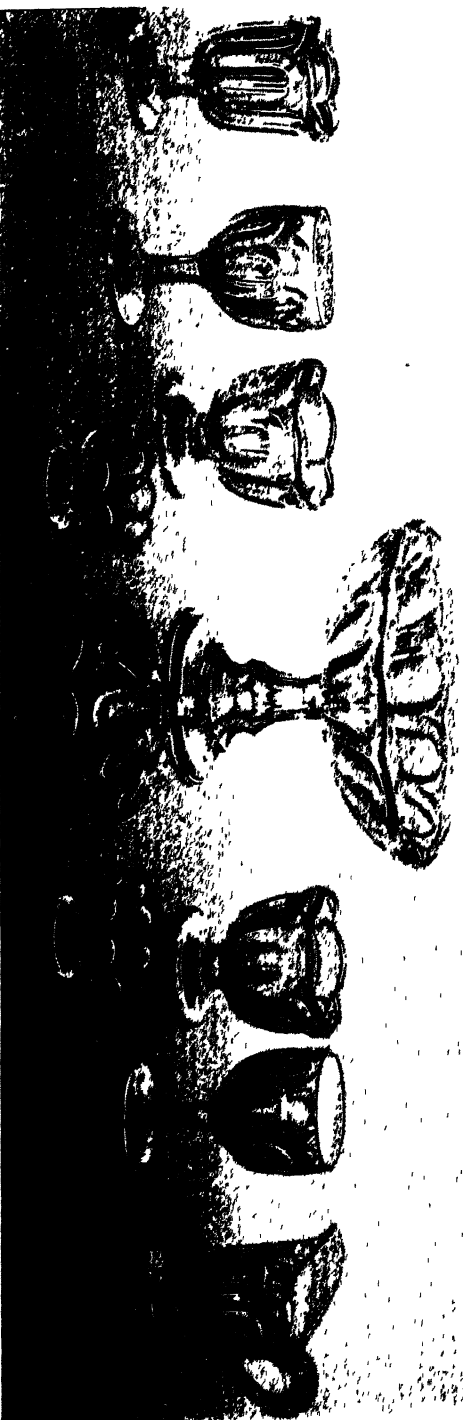
THREADED WARE

Glass pens with their vari-colored threads of glass and bird ornaments seemed ever to attract the attention of glass buyers. Making threaded ware required more skill than most of the other methods of production. Wines, goblets, bottles and flasks were the articles selected for this decoration. The article to be threaded was attached to a revolving rod and kept whirling. The glassmaker gathered a slim rod of colored glass, usually ruby, sometimes blue, shaped it to a fine point and at red heat carefully made a contact with the revolving piece, thus depositing those tiny rings of red or blue around the article.

Glass bears, usually black, sometimes white, blue, or purple, and made for match holders, had a place on the kitchen mantel of nearly every Sandwich home.

Toothpick holders were never omitted from the Sandwich stock of glass articles. Pin trays also served their purpose in most households at that day.

Punch bowls, beer tumblers, wines, whiskey glasses and egg cups were frequently included in filling an order.



These graceful pieces of Sandwich Loop design are from Mrs. William Greig Walker's collection

THE FAMOUS LION PATTERN

Prominent in the Sandwich list was the Lion pattern. The king of beasts posed on the foot and stem and also on the cover of compotes, sugars and butters. The Lion was made in acid finish.

Pickle dishes, honey dishes and ink wells were turned out daily by the glassmakers in Sandwich. Mirror knobs in opalescent hue, curtain pulls in amber, blue and purple, plain and opalescent knobs for bureau and table drawers comprised an important branch of the industry.

Small glass mugs with animal designs and A B C plates for youngsters had a fixed place in the regular catalogue.

Sandwich bottles were largely of the perfume, wine and smelling salt varieties. Colored and plain, the crucifix was another Factory special. Colored pint flasks, single and double with both straight and crooked necks, were a striking specialty. Cut glass bibles for paper weight use supplied many gift orders.

Beaded edges characterized a large proportion of flat ware.

HENRY CLAY FACING RIGHT

An oddity and also a rarity in Old Sandwich is the Henry Clay cup plate facing *right*. As most collectors know, the Henry Clay cup plate usually found in shops or old houses shows Clay's head facing left. It happened on one occasion, when the design of Henry Clay was being pressed, that the mould was unintentionally reversed—consequently the freak cup plate. Only a few of these were turned out before the error was discovered; therefore, the specimens of this type are seldom to be found.



A sizable fruit dish on small feet, with stippled surface and patterned in a series of oak leaves, is a desirable addition to any collection. A large tray with oak leaf handles is closely related in general design.

The standard patterns in pressed glassware were Horn of Plenty, Thumbprint, Bull's Eye, Hob Nail, Buckle, Diamond Point or Raised Diamond, Pineapple, Grape, Bleeding Heart, Westward Ho, Eagle, Lion, Log Cabin, Bee Hive, Peacock Feather, Grant, Lincoln Drape, Loop, Loop and Jewel, Sheaf of Wheat, Star and Feather, Star and Bull's Eye, Cadmus, LaFayette, Henry Clay, Washington, Benjamin Franklin, Bunker Hill, Cable, Daisy, Ivy, Sandwich or Cane Seat, Chrysanthemum Leaf, Bell Flower, Hamilton or Sunburst and some of the other designs enumerated in this chapter.

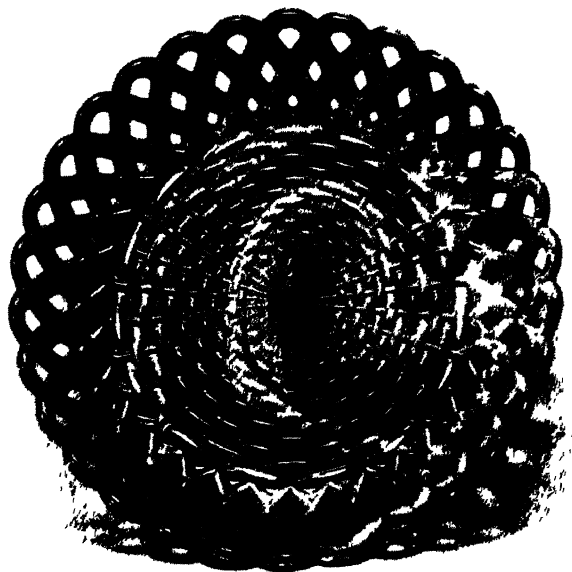
MARBLE OR SLAG GLASS

Studded glass table ware, commonly designated as Pin Point pattern, makes strong appeal to the glass collector. Marble or slag glass with its irregular coloring, and splash glass, also colored in disorderly fashion, have a niche in the glass hall of fame of Sandwich origin.

Glass hats in amber, yellow, purple and blue; sleighs and stoves were among the novelties of Sandwich make.

A very rare specimen of Old Sandwich is the Peacock plate. This plate was made in four and six-inch sizes. The Peacock occupies the centre of the plate and its tail, at full spread, covers the rest of the inner surface.

It can readily be understood that during the early days of the Factory the variety of patterns, as well as the diversity of articles made, was limited. This was



A fine specimen of Sandwich Marble or Slag glass. Either by accident or design the figure of a peacock appears in the bottom. Marble or Slag glass was made from a mixture of various colors. This dish in basket weave and open work border is from the collection of Mrs. Joseph E. Connor of North Quincy, Massachusetts

especially true until after 1830 when the process of moulding was discovered and adopted.

Whale oil lamps, petticoat and squash lamps, candlesticks and some tableware, such as tumblers, goblets, salts, nappies, sugar bowls and pitchers, were turned out during the first few years and these were more varied in shape and size than in design. In fact, all early blown glass was somewhat plain.

When the pressing or moulding method came into use it logically opened the way for patterns which distinguished Old Sandwich Glass and brought favor and fame to this plant.

PATTERNS BY PERIODS

Patterns suggest periods and so in conjunction I will outline these topics in order that the collector may identify them and compare their outstanding characteristics.

From 1830 to 1840 the articles just mentioned were the principal products in pressed ware, with cup plates added to the list.

The predominant patterns for this decade were Raised Diamond or Diamond Point, floral designs, Shell pattern, Oak Leaf, Bee Hive, Sheaf of Wheat, Heart, Horn of Plenty, Dolphin, Bull's Eye, Grape, Star and Feather, Dewdrop or Pin Point and the Industrial. The Industrial, showing the factory, the log cabin and the plowman; the Bee Hive and Thistle, Peacock Feather, and Corinthian designs characterized the lace glass of this period.

It would seem that the thoughts of the native American glassmaker were concerned with historic events of his own country as is shown in designs both early and late, including the Log Cabin, Bunker Hill, Lincoln Drape, the Eagle, Horn of Plenty, Henry Clay, and the Grant pattern made when President Grant was in office. Then we have the Ship Constitution, and the Cadmus, the ship that brought LaFayette to America.

The Bull's Eye design may have been inspired by the friendly overtures of a bull to some absent-minded gaffer risking a stroll on "Town Neck", the name given the rounded elevation of land, overlooking the Bay, which was apportioned to the townspeople in the olden days as "cow rights".

The Bee Hive, which was often used, might typify industry or perhaps unexpected contact with a neighbor's bees.

The Heart cup plate, of course, signifies love. The



Old Sandwich spoonholders. Left to right—Cable, Horn of Plenty, Silvered Sandwich, Morning Glory and Moss Rose



Above—a Stippled Jewel goblet, a pink Threaded wine, a Bellflower goblet, a green Barrel salt and a Grape goblet

Below—Fence, Pineapple, and Bull's Eye and Bar goblets





Group of engraved goblets in the Sandwich Historical Society's collection

thirteen hearts on the border represent the thirteen original states.

I have mentioned the Horn of Plenty. As it was used a great deal in pressed glass it may have been inspired by the thought of the Pilgrims at Thanksgiving time. If inspired by mythology it is one more proof that these men were no ordinary workmen but men of learning and culture.

From 1840 to 1850 were added Thumbprint, Acanthus, Peacock Feather, Morning Glory, Fuchsia, Tulip, Lyre, Bell Flower, Hob Nail, Pineapple, Ivy, and Moss Rose.

From 1850 through Civil War time prevailing patterns were Sandwich or Cane-Seat, Grecian Border on sanded surface, Cable, Cathedral, Westward Ho, Hamilton, Loop and Jewel, Loop and Leaf, Daisy, Strawberry, and other floral, fruit and conventional designs.

From 1865 to 1875 the Lincoln Drape, Grant,

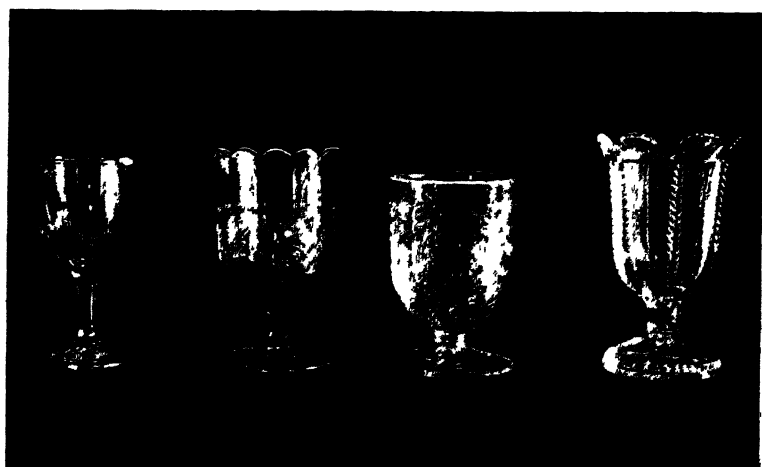
Lion, Fence, Buckle, Bleeding Heart and Chrysanthemum creations made their appearance.

From 1875 to 1888, the year the old Sandwich Factory was closed, many conventional designs were made and standard patterns continued in accordance with the demand of trade. Ashburton, Mitchell, Huber, Utica and Hamilton pattern goblets were popular designs in the late years of operation. In this particular period, the Chrysanthemum Leaf was the prevailing pattern in table ware.

INDULGED IN SENTIMENT

The workmen of the early days in Sandwich evidently indulged in visions, for quite a little sentiment seems to have entered into the designs for their moulds. For instance, we pick up a sugar bowl of grandmother's day (now posing as a candy jar in some debutante's boudoir) and we find designed the Rose of England, the Thistle of Scotland, or the Lily of France. It is

Sunburst wine, Moss Rose spoonholder, Morning Glory spoonholder and Cable spoonholder—left to right



possible that the Jacobite sentiment that had inspired the rose and thistle in English glasses was responsible for this reappearing in American designs. Other pieces show the Shamrock and the Lyre. Sometimes on the cover of a compote we find the English Lion resting; or again we discover three lions on hind legs supporting the bowl of the compote and forming the standard or base. The lions are usually of opaque or frosted glass, contrasting with the clear flint glass of the piece.

The design of the Atlantic Cable might bring out the thought of connection between the old world and new.

A religious tendency is shown by the making of candlesticks in the form of crucifixes, bibles, and bread plates with the inscription "Give Us This Day Our Daily Bread". The outstanding example of the religious motif, however, is that marvelous bread plate on which is depicted the Last Supper. The figures and features of Jesus and each of the Disciples stand out in bas-relief, clear and distinguishable.

AN ORIGINAL ORDER

Collectors may gain a bit of interesting information by scanning an original order for glass made up at the Boston and Sandwich Factory in 1840. If they find names of patterns with which they are not familiar, the explanation is this: In some cases the Factory names were not the same as those by which certain patterns are now commonly known. For example, what is known to collectors today as the Diamond Point bore the Factory name of Raised Diamond. Names of patterns often had no particular significance to the design itself. It would seem that patterns often were named as we name streets. Oak Street may have only maple trees on it and never an oak. So it was



A group of Old Sandwich Islands lamps owned by Mrs. Edna Clark of New Bedford—a collection of many shapes and types including overlaid, flint, spirit lamps, whale oil lamps and lamps with marble and bronze feet

sometimes with Sandwich Glass. Then, again, special orders for glass were sometimes given the names suggested by the buyers, which makes it difficult to trace the origin, as in the Utica, Huber, Ashburton and Mitchell patterns. We know these were all made in fluted ware, varying in the size and shape of fluting. The Huber goblet had a fluted stem. But no one living to-day seems to recall how these patterns acquired their names.

So, in looking over the following exact copy of the old 1840 order, do not think it strange if you find names with which you are not familiar as a collector; nor puzzle over the spelling—it, too, is uncommon today:

PREST WARE

Buttres No. 200, 10, $\frac{1}{2}$ size cask 7 in.

	5,	"	"	"	8
94 Roseleaf	10,	"	"	"	7
64 Clod	10,	"	"	"	7
96 Mica	10,	"	"	"	7
	5,	"	"	"	8

Salts	20	bbl. or	Boxes	N	87
	20	"	"	"	200
	10	"	"	"	Cape Cod
	20	Small	Boxes	Indi	45 on foot
	20	"	"	"	700
	30	"	"	"	33
	20	"	"	"	85

Plates 20 bbl. Grape P'n

Candlesticks	10	Cask	N	5	size	Tall Dolphin
	15	"	"	"	"	Short "

Nappies	20	Boxes	3 in.	ang. pat.	(meaning Angelo Patri)
	10	do.	Butter	Nappies	
	10	bbl.	4 in.	Cape Cod	
	10	"	"	"	200
	10	"	"	"	Comet

10	"	"	"	#	31	vine
20	"	5	"		40	
10	"	"	"		200	
10	"	each	6	Wash.	42, 43, 32, 200, 96	
5	"	"	7	"	200, 96	

FIRE POL. SHANK ARTICLES

Goblets	20	Cask	96	Utica
	10	"	200	Small size
	10	"		Raised Diamond
	10	"		Huber in new mould
Champ.	10	"	96	Utica
	10	"	200	"
	10	"	22	Huber
Wines	10	bbl.	96	
	10	"	200	
	10	"	22	Huber

OPAL WARE

One move 3 in Match Boxes & Cov.				
10	Small package	Bird	Founts.	
5	"	"	or Boxes	Bird Baths
10	Med. size	Cask	Short	Dolphin Candlestick
10	"	"	Tall	"
20	N. 200	Butters	20 do.	Square Butters
10	bbls. 7 & 8	in ea.	N. 200	Dishes
"	"	"	"	Utica
5	Cask	#	96	Opal Setts
5	"		200	"
10	"		56	Niol Jugs B. C.
10	"		58	Butters
50	"		200	7 In. Nappies on feet
"	"		"	8 "
Salvers,	10	medium	Cask	N 200
	10	"	"	Wash.
	5	"	"	Mt. Vernon
	5	"	"	5 inch Cape Cod

CASTOR PLACE WORK

Bowls	N 200	10	Good	size	8 in.	
		10	"	"	9	All Tall Feet
		5	"	"	10	
	N 40	5	"	"	8 in.	
	64	10	"	"	7 in.	
	96	10	"	"	7 in.	
		10	"	"	8 in.	
		6	"	"	9 in.	
Prest Salvers,	5	2nd	size	8 in.	Salvers	
	5	"	"	10	"	"
	5	"	"	12	"	"
Blown do	8	2nd	size	8 in.		
	10	"	"	10		
	10	"	"	12		
	5	"	"	14		
Cake Covers,	10	"	"	8		
	10	"	"	10		
	10	"	"	12		
	5	"	"	14		
Celleries,	5	"		N 96		
	5	"		200		
Fish Globes	10	"		2 Tall	on foot	
	10	"		1½	" " "	
	10	"		1	" " "	

SETTS (Flint)

N 96	50 bbl	1 doz Sugar, 1 doz. Cream. 1 doz. S.H.
		1 doz P.
	50 "	Same Engraved, Top. Sugar and Butter only

B.O. Light Peppers 4 oz. make
50 Boxes to hold 15 to 25 doz.



Complete set of table ware in Bell Flower pattern. Collection of Mrs. William Greig Walker

HOW TO TELL OLD SANDWICH

In determining the patterns, colors and periods of Old Sandwich Glass, I have been guided by, and informed through, the following sources of knowledge: Contacts with the glassmakers, handling the moulds, watching the operations, searching the early records, examining specimens of the glass and the fragments that have always been available in the Factory Yard and which furnish unimpeachable proof of color and design.

Many pieces of Old Sandwich Glass have a brilliant sheen, a bell-like ring and a soft, smooth texture but these are contributing features and not determining.

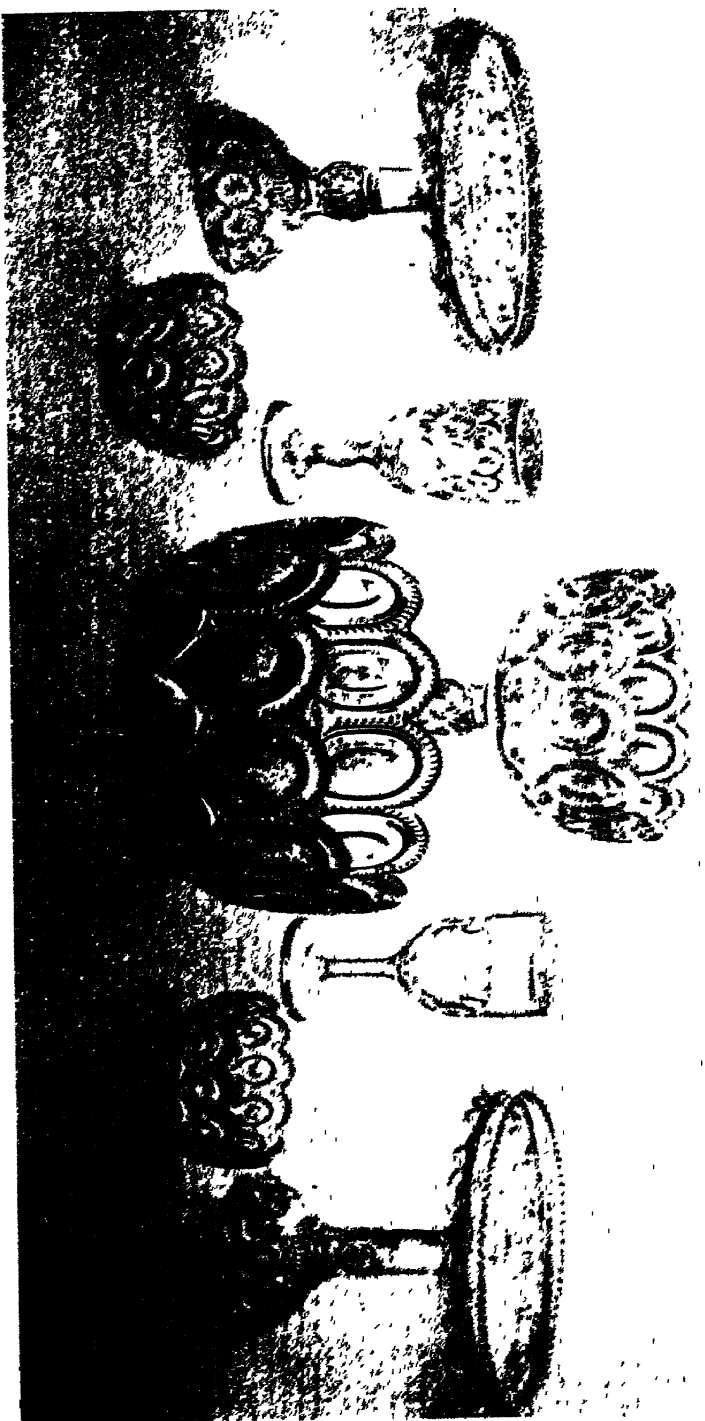
Many patterns of Old Sandwich Glass had a stippled surface, others a snake skin surface and still others were heavily figured on the outside. All three types thus described produce no ring.

THE PUNTY MARK

Concerning the pontil mark or punty mark, as it was termed in the Factory, I would inform my readers that while this is usually to be relied upon as an evidence of early glass, it must be distinguished from the imitation which is to be found in reproductions.

The footed ware, except goblets, made previous to 1850, old paper weights, vases and bottles can be identified by a rough uneven pontil, but the reproduction, if examined with due care, will reveal numerous chippings and less bulge.

My father, Thomas H. Chipman, was a puntier and by the use of a revolving emery wheel he smoothed the rough pontil and polished the mark with a



Gems of the Star and Purity or Star and Bull's Eye pattern. Collection of Mrs. William Greig Walker



*The Sandwich Polar Bear and Seal design. Collection of
Mrs. William Greig Walker*

cork wheel. It frequently happened that Sandwich people, who owned early glass articles with a rough pontil that caused an uneven position on the table or mantel, would bring these pieces back to the Factory (perhaps twenty years after their manufacture) and in spare time my father would grind off the pontil and smooth up the article. Thus it can be understood that some of the old specimens found in Sandwich, or even elsewhere, without pontil, might well be of an earlier period than the collector could establish.

The real problem which confronts the collector is the one which prompts the frequent query, "How can I tell Sandwich Glass"?

My answer is "Confine your selections to the particular patterns and designs that were moulded and made exclusively in the Sandwich Factory."

THE SANDWICH CUP PLATES

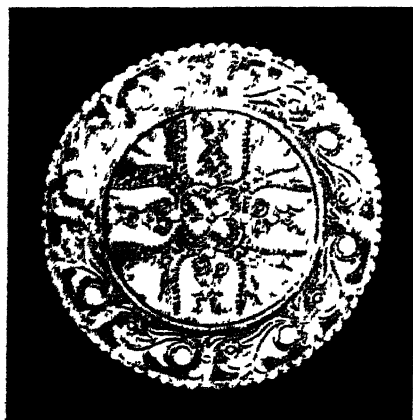
Between the years 1828 and 1865, in the Boston & Sandwich Glass Works, every significant event, it would seem, was commemorated in a specially designed cup plate. Likenesses of several public men were in like manner reproduced.

This practice of recording historic events in Sandwich Glass, just as in Staffordshire pottery, lends added significance to the statement of Mrs. Ellouise Baker Larsen, authority on Historic Blue Ware: "As a country starts to have a history, ceramic art records its events. Early pottery will rank eventually with Grecian art in value." May not the nation's history recorded in glass likewise hold artistic value?

Of these special cup plates, the Presentation specimen made for the Prince of Wales (Edward VII - to be) when he visited this country in the early sixties, is representative. The border, in which a coronet is incorporated, is especially fine. The centre design also shows the coronet.

Just why some cup plates of this period are so unobtainable it would be hard to say. There are, however, circumstances of manufacture which might explain the plentiful supply of others. There are Bunker Hill cup plates scattered all over the country, for when Bunker Hill Monument was dedicated, cup plates of this particular pattern were made with the special intent of selling them as souvenirs of that memorable occasion. The delay in completing the monument after the laying of the corner stone on June 17, 1825, brings the date of this cup plate into the forties, so it was not one of the very earliest.

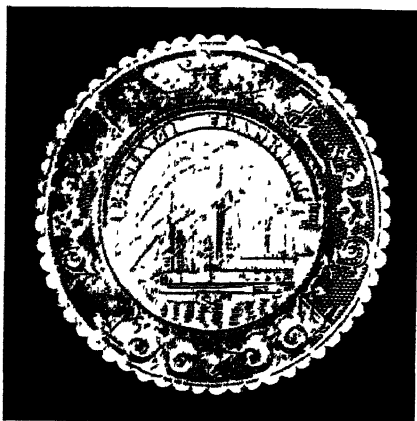
Everyone is familiar with the Henry Clay cup plate, which received its advertising through a pro-



CUP PLATES
FROM THE
COLLECTION OF
MRS. REUBEN HORTON
READING HIGHLANDS
MASSACHUSETTS

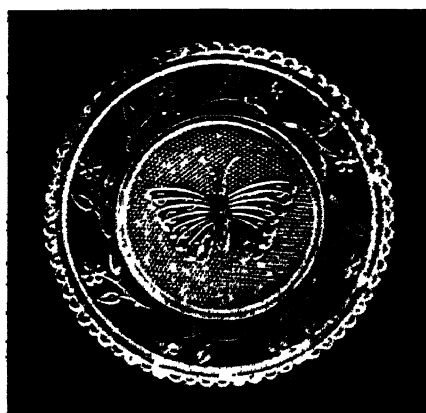
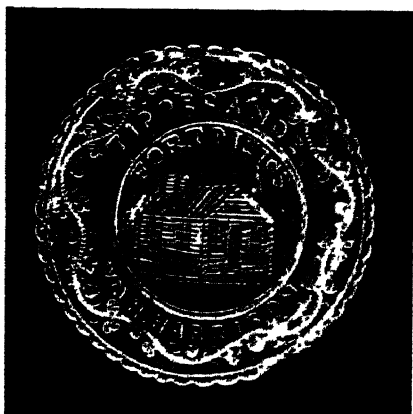
*Above—A conventional lace cup
plate with Acanthus border*

*At right—A Benjamin Franklin
—one of the historical cup plates*



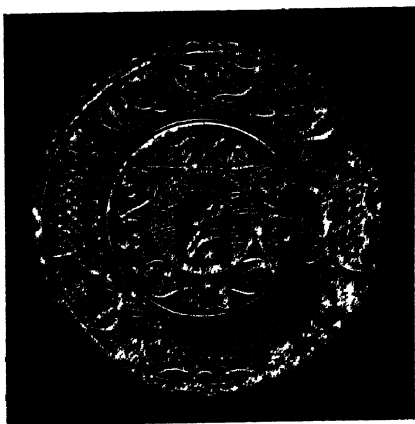
*An Eagle cup plate, dated 1831
—the only dated cup plate*

CUP PLATES
FROM THE
COLLECTION OF
MRS. W. HUBERT WOOD
SANDWICH
MASSACHUSETTS



*Above—The Fort Meigs pattern
—a souvenir of William Henry
Harrison's campaign for President
At left—The Butterfly design*

*Henry Clay facing left — ex-
tremely rare when Clay faces right*



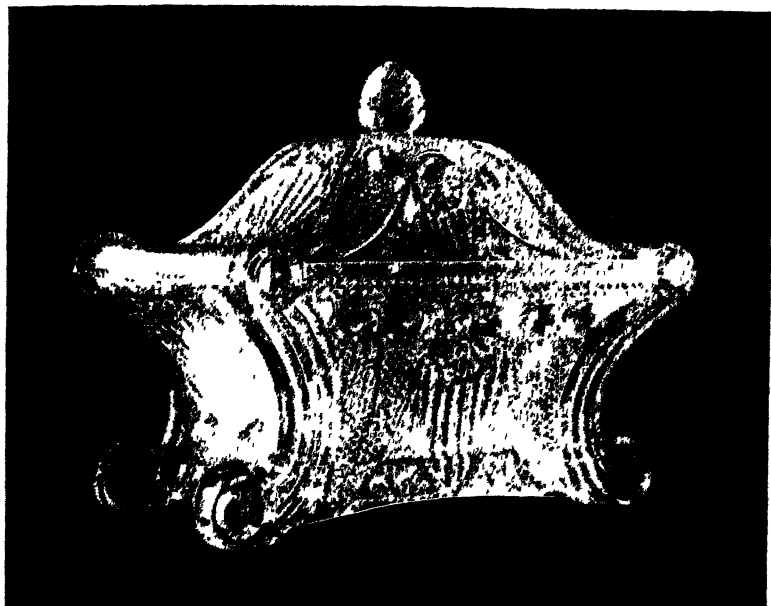
nounced partiality for one profile and the rejection of the other. Rather an amazing basis on which to set a value but the fact holds today, and many a lament goes forth over the fact that Mr. Clay is found looking so frequently to the left. The details of this story will be found elsewhere in this volume.

The rarest of the Sandwich cup plates are: The Chancellor Livingstone, George Washington, Lafayette, Victoria, Cadmus, Benjamin Franklin, the Eagle, Log Cabin and, non-historic, the Bee Hive. This last is especially beautiful. The beehive stands in relief on the clear flint glass. All these were among the early products of the plant. "1831" is moulded on the Eagle cup plate. The others mentioned but not dated were made between 1830 and 1840.

Among other designs more commonly seen are: The Heart pattern, the Thistle, Butterfly, Daisy with Leafy Border, Fleur-de-Lis, Hamilton or Sunburst, and the State. The last named has a centre design of nine stars, and seventeen stars set in scalloped outline show in the border. The cup plate known as the Sandwich Star might be mentioned also with these. Much of the clear flint glass shows in this, thus accentuating the central design.

Occasionally a lace cup plate of conventional design, not a well-known specimen, takes the eye. Those who have learned patterns and can distinguish glass quality by sense of touch, tone and brilliancy of sheen know when they have found genuine Sandwich.

The cup plates are often called by different names. It is difficult to trace terms which may have come into use, and to adjudge which shall be correct and which erroneous. Nomenclature has no lawful board of censorship; but the fitting and authentic name to employ should be that given by the manufacturers.

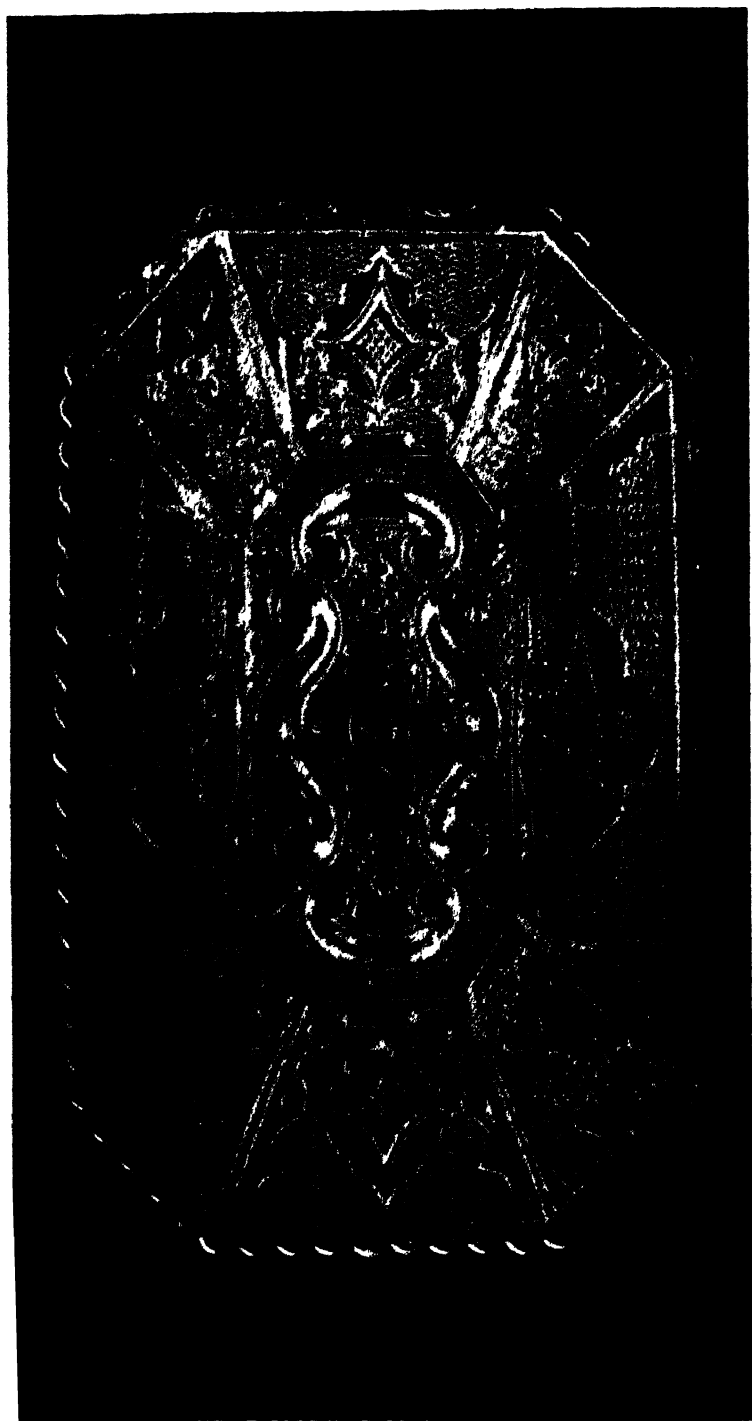


Old Sandwich pressed Lace glass jewel casket, fashioned after the design of the gem-set caskets of precious metal found in the tombs of the ancients. The pattern is a distinctive Sandwich creation of Peacock Feather and Shield. Period 1835. This rare and very beautiful piece is in the collection of Warren B. Nash of 410 Park Avenue, New York

SNAKE SKIN, LACE AND CRACKLE

Snake Skin and Lace glass are not at all alike yet collectors frequently confuse them. Usually the confusion arises from the fact that they never have compared the two types. Essentially the difference is this: Snake Skin glass has a very dull, rough surface. It imitates the scaly skin of the snake very realistically and the design is always in irregular, roaming lines resembling those on the skin of a snake.

Snake Skin glass is the one striking example of Old Sandwich Glass that does not have that clear bell-like ring. Glass surfaced in this manner, or stippled, will not permit resonance.



Deep dish of Old Sandwich glass in Star pattern with scalloped edge supported by unusual and elaborate lace work. Period 1835. Note how closely the fine pin-point effect resembles the delicate tracery of a piece of old lace. Imagine the intricate mould that pieved it



Old Sandwich Lace glass tray in Heart pattern, similar to the design on an old silver tray found at Hildesheim, October 7, 1868, and thought to have been manufactured in Rome. Period 1835. In the collection of Joseph C. Lincoln, the author, Chatham, Massachusetts

Lace glass, on the other hand, has a brilliant silvery sheen, in contrast to the dull rough surface of Snake Skin glass. The fine pin-point effect unmistakably resembles delicate lace work.

The method of making Snake Skin glass was entirely different from the process used in any other type. First the core was gathered and shaped in plain flint metal and while still hot the article was immersed in cold water. This made the outer surface crackle in rough, irregular lines. In some cases, the process was stopped here. The product then was what is known as crackle glass. If, however, Snake Skin glass was desired, the article was re-heated in the "glory hole" and while hot the outer surface was rolled in pulverized flint glass. This caused the pulverized material to fuse and adhere to the crackled surface and give it that frosted appearance.

It is not an uncommon occurrence for me to receive communications which seek information that will enable the enquirer to distinguish the late reproductions of lace glass from the genuine old Sandwich lace ware.

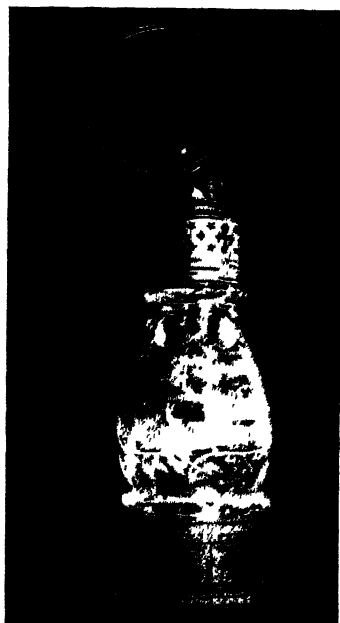
It requires but a moment to determine the difference. The reproduction is never as bright, plainly lacks the texture, depth, and perfection of design, and weighs decidedly less than the genuine. The ring also is missing.

*Two-
handled
bowl*



*A fine
Snakeskin
specimen*

*Engraved
lantern
in the
Deer
pattern*



*Collection
Frank D.
Howard
Chicopee
Falls*

ENGRAVED AND ETCHED WARE

The processes of engraving and etching glass are too often confused though the methods are entirely different. The engraving of glass was really a process of cutting by means of a sharp steel or copper wheel disk with which the designs were engraved upon the article. Real skill was required in this operation. A trained eye and steady hand were the requisites.

The beautiful old lamp shades and domes, the goblets and other table ware that were engraved in Sandwich stand unexcelled. The shades and domes were treated with an acid or sanded finish while the initialed or decorated tableware was usually in plain glass.

Etching was accomplished by a very different method: First a steel, glass or copper plate was made and then the body part of a design was painted on

the plate. Wax, spermaceti, rosin, lavender and turpentine were the ingredients used for the inking of the plate.

Next a steel point was used to pick the finer lines of the design. This accomplished, the edge of the plate was waxed in pie-crust fashion in order that the acid used would not run off. Then the design was etched with hydrofluoric acid and by applying specially prepared paper, a print was made, placed on the lamp shade, rolled and smoothed with a felt pad until the pattern adhered to the glass.

This process was used most extensively on glass with a dull finish. When etching was done on plain flint glass, wax, acid and ammonia were used. The plate etching process was begun about 1878 under the direction of James Corbett and continued under the supervision of Frank Lapham.

In etching, as in other processes, the Sandwich Factory developed an expert—Charles W. Talbot, son of William Talbot—my mother's brother and father, respectively. My uncle, Charles W., later became manager of the Etching department.

ENGRAVED PANES FOR DOORWAYS

Narrow glass panes, which were installed on each side of the front doors in the old wood and brick houses of a century ago, were produced extensively at Sandwich. These glass panels were of acid finish, with scroll engraving. One need only to visit the South End of Boston, where the well-to-do of those days resided, to find these windows still adorning the old doorways. Frequently, too, they may be observed in the rural communities of New England where the old country house has not been re-modeled. This holds true also in New York and the Middle West.



*Engraved panes either side of the front doorway of Mrs.
Ella Lapham Mooers in Sandwich*

DECORATED LAMPS

A department of the Sandwich Factory which flourished from 1870 to 1888 was the Decorated Lamp Shop. Lamps of all sizes and shapes, most of which were equipped with brass fonts and burners for holding kerosene, were made and decorated with floral and scenic designs. The bases, bowls and shades were

made of white or tinted glass in the main plant and turned over to the Decorating Shop for embellishment.

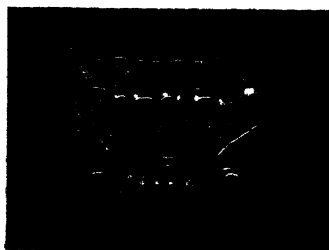
Edward Swan, a noted decorator and designer, was at the head of this department for some years. Following Mr. Swan came Henry Miller, a German artist of reputation, who also maintained the Decorating department upon a high standard.

Most of the decorators were girls and women of the local community. A number of men also entered the department. Under the expert instruction of such artists as Mr. Swan and Mr. Miller, fifty skilled decorators were trained and employed. The excellence of this ware made the Decorated Lamp Shop a leading branch of the industry for years. The volume of its output also exceeded that of any American plant.

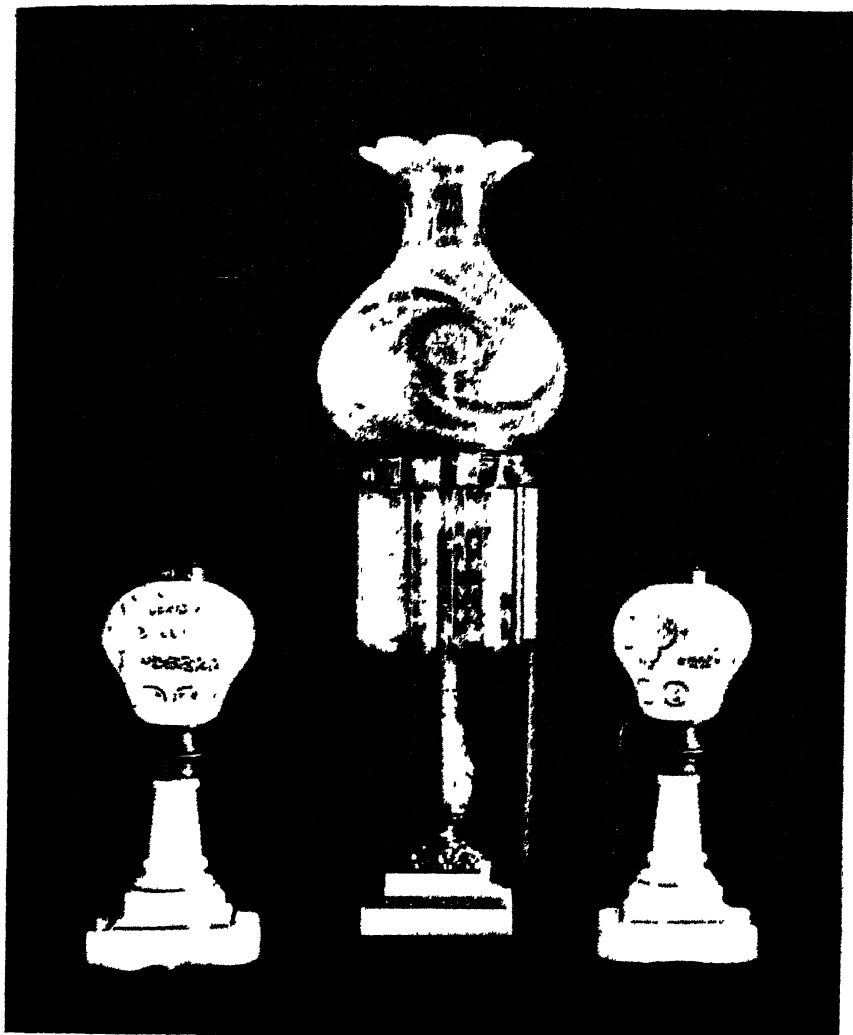
THE DANGLERS

Designing and making chandeliers required both skill and artistic taste, and here, too, the Sandwich Factory established its fame at an early date. Churches and public edifices were supplied with special creations both intricate and ornate. Private houses were frequently equipped with this type of lighting fixtures. The prisms, or dangles, glass frames and candle holders were always made of the finest quality of flint glass, exquisitely cut.

*Sofa
salt*



*Lyre
design*



Lamps owned by Mrs. Alice Wing of Sandwich. The engraved and frosted globe on the beautiful specimen in the centre represents the Sandwich glassmakers' art at its best. Even the fine cast bronze stem was made at the Sandwich Factory. An excellent bust of George Washington in bas relief, encircled by a wreath and surmounted by a spread eagle, appears on the stem. Prism dangles of clear flint glass add to the ornamental effect. This lamp was made especially for Mrs. Wing's grandfather, William Boyden. The other two lamps in the picture are fine specimens of Sandwich overlay. This trio would delight the eye and add charm to the collection of any connoisseur



This fine ruby overlay lamp, with triple base of marble and bronze, is the particular prize of Mrs. Charles D. Cook of Providence, Rhode Island. The engraved shade is the original dome of this lamp. Mrs. Cook has another exquisite specimen in blue overlay with shade to match

COLORED SANDWICH

Golden Ruby! These are magic words when glass is mentioned in Sandwich. Why—since the method of making ruby glass was discovered by Johann Knuckel in Berlin in the Seventeenth Century? The answer is obvious: Because the perfection attained in ruby glass at the Sandwich Factory has never been excelled before or since.

There were initial steps leading to its perfection, of course. Men were brought from England to introduce the process of making this and the opal glass, brought at great risk to themselves under the English penal enactments—enactments quite as severe as that which restricted England herself when she in former days sought instruction from the artists of Venice. This, incidentally, proves that men and nations in all ages legislate toward one commercial end—monopoly. It was a penal offense to entice workmen to leave the United Kingdom during the early part of the Nineteenth Century and perhaps long before. Mr. Jarves speaks of the law being in effect as early as 1811.

Aqua Homo relates the hairbreadth escape of one Andrew T. Hall. The factory gates were shut upon him by the officers but he escaped, helped over the wall by his fellow workmen. The men who sustained the spirit of glass through the ages were no cowards, it seems. Many a tale of daring is told of the Venetian rebels enticed to England by Edward VI.

A word now concerning Johann Knuckel who discovered the process of making ruby glass: He had the advantage of being an alchemist of the highest order and a highly educated man. Knuckel held the position of alchemist at the Saxon Court.

As a chemist he entered the service of Frederick William, the Grosse Churfurst. It was probably a case of rediscovering for, according to Dillon, "It was at Berlin about this time that his researches upon the transformation of matter led him to make enquiries into the coloring of glass, above all into the mysterious process by which glass could be stained of a crimson or purple tint by means of gold. That such a color could be obtained had long been a tradition among the alchemists. In the old books the secret was dangled before the eyes of the student without being fully explained. The Saracens were probably acquainted with it; Agricola mentions the *Ritzie*, the '*Aurum Quo Tingitur Vitrum Rubro Colore*' and Neri refers to the red tint derived from gold."

And from the same source: "Not a little of the mystery that so long surrounded this ruby color had its origin, no doubt, in the following facts: (1) The full tint is only obtained when pure gold is present. (2) The color is not to be developed until the glass is reheated; on the first cooling the metal is nearly colorless. It is scarcely necessary to point out how both these properties of the gold pigment must have appealed to the imagination of the alchemists, and have furnished them with arguments in favor of their transformation theories. Here, then, we have one explanation of the interest taken by these early enquirers in the processes of the glassmaker."

It was on the Pfauen-Insel, near Potsdam, surrounded by the greatest secrecy, that Knuckel first made his famous ruby glass. In later years it is said that he went into the service of the King of Sweden and the title of Baron Lowenstern was conferred upon him. He died at Stockholm in 1702.

One hundred and fifty years had elapsed since the

Cut glass jug in ruby and flint. A special creation presented by the Company to William Boyden. It is now in the possession of his grand-daughter, Mrs. Alice Wing of Sandwich



passing of Baron Lowenstern, and workmen in Sandwich, though not acknowledged alchemists, were luring the secret of color from the mystery called glass. To learn just how successful they were we need but to look at any specimen of their workmanship.

The Sandwich Ruby Glass is like solidified flame. It has the indescribable character of a red and gold sunset. There is an elusiveness of tone in its living red that not even the opal glass of Sandwich, with its lovely changing colors, possesses. It causes one to add mentally those touches of changing blue and purple, of sulphur yellow, that characterize a November sky at daylight's end. One wonders why, because to actual vision there is nothing observable but shifting depths of ruby red. Therein lies the marvel of this glass that Sandwich workmen created—it lures the fancy of the beholder, even as it tempted and fired the imagination of its creators.

GLASS OF MANY COLORS

During the later years of the Factory's operation milk white glass, plain, with openwork edges, figured and in basket weave, was turned out in abundance. While the information contained in other chapters relates to flint glass there was, all through these years, from 1831 on, an abundance of beautiful colored glass made and sold.

Here again the Sandwich Factory led all rivals. It is freely admitted that the Golden Ruby, Sapphire Blue, Opalescent, Jade, Amber, Purple, Magenta, Yellow, Salmon, Pink and Green shades evolved in Sandwich were not paralleled in the glass industry.

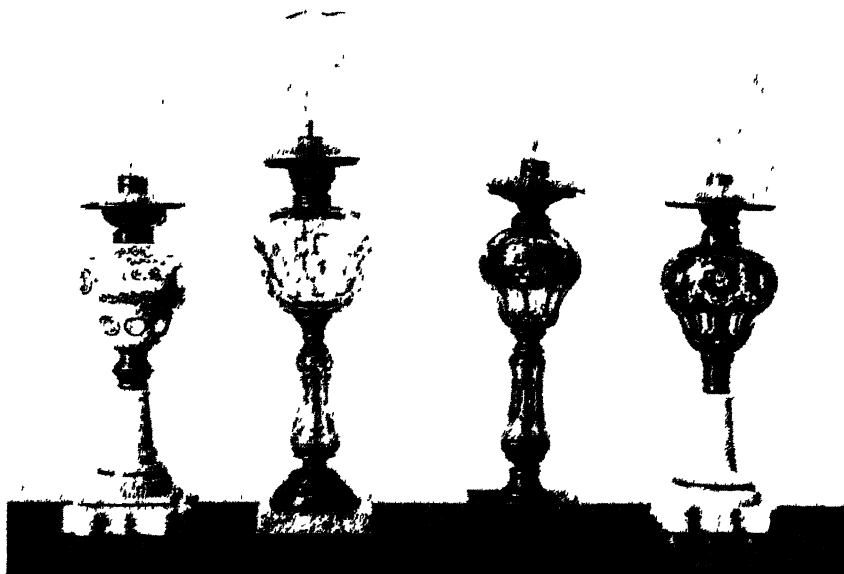
The beautiful overlay lamps, ruby perfume bottles, jade salts, tinted toilet sets, vases and vari-colored tableware manufactured in Sandwich were unequalled in the pressed glass field. In no other factory was the overlay work done in three colors.

The outstanding discovery in color production made by James D. Lloyd, the color evolutionist of the Sandwich Factory, was the use of oxide of antimony. This ingredient was particularly effective in achieving clearness and brilliancy of coloring. This discovery by Mr. Lloyd has been widely acknowledged as a very important one.

THE FAMOUS OVERLAY

No phase of glassmaking has aroused more interest than that of overlay made so much of in late years by the connoisseur. The skill displayed in these overlay pieces as well as the clarity and magnificence of the color tones has made them objects of rare value to collectors.

Although the initial steps of making glass have



Four Sandwich overlay lamps with the old engraved shade. These treasures belong to Mrs. Walter P. Wright of Brookline, Massachusetts

Three Old Sandwich overlay lamps. The green and white one in the centre was made by Gaffer Lapham. It is now in the collection of Charles O. Dexter of New Bedford and Sandwich



been frequently described, perhaps those interested in the making of overlay may find the starting point instructive. There seems to be in many minds a confusion as to just which process was used in overlay making, many believing the Sandwich overlay lamps were constructed in moulds, which was not the case. The overlay, sometimes called "coated ware", was a blown process, quite distinct from that of pressed glass.

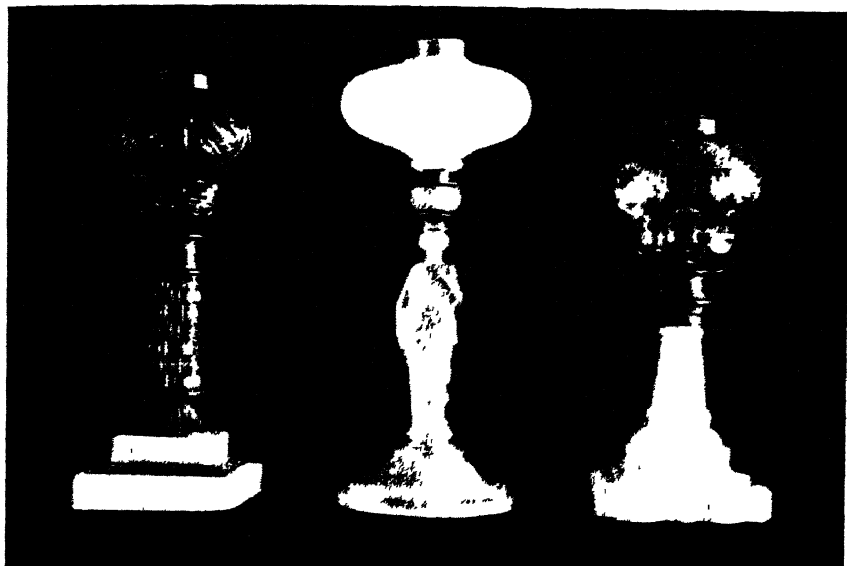
A lamp bowl was first blown as the inner vessel or layer, which was usually of clear flint glass, sometimes white glass, sometimes colored. It should be noted here that white glass and flint glass are not the same. Flint glass is the clear, transparent glass, pure potash silicate, and the Sandwich product always had lead in its composition, a fact to which is attributed its clear metallic ring. White glass is opaque.

In the overlay process, two or three "cups" conforming to the number of colors used, were blown, shaped and fused, one over the other, while the metal was heated to a workable degree.

In order that the different coatings should temper uniformly to avoid separation or cracking when finished, it was essential to use the same basic quality of material. While firing methods are generally understood, I will trace the operation from the molten glass in the pots.

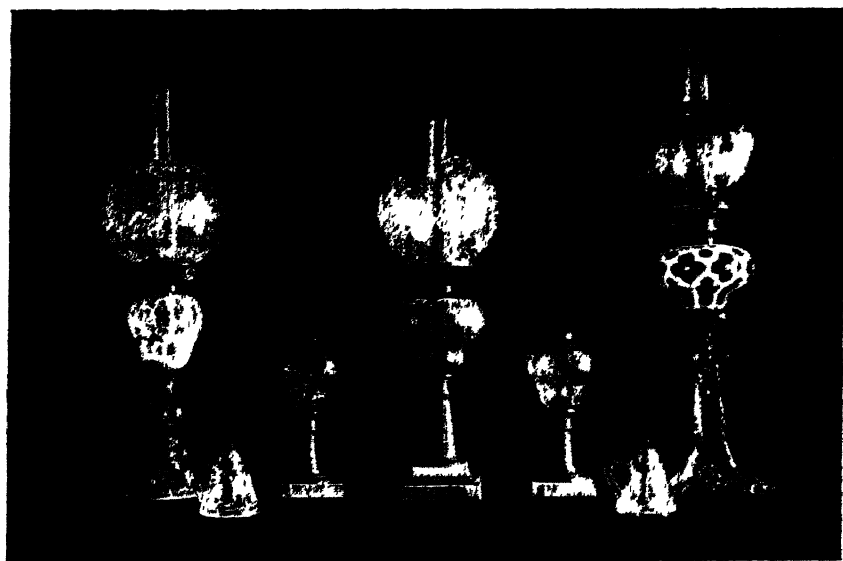
These great clay pots were made by an infinitely painstaking process, the soft clay undergoing a treading process by men in their bare feet, after which the pots were shaped and annealed, the entire process covering a period of months.

Into these pots, which stood over thirty inches high, and which were over forty inches wide, the mixture which was to become molten glass was placed. Fifteen hundred pounds, or thereabout, was the capa-



A trio of Sandwich lamps from the collection of Mrs. B. D. Webber of Sandwich. The one on the left is in ruby overlay and the one at the right in blue overlay

This group of Sandwich lamps is in the possession of the descendants of Edmund Freeman, one of the founders of the Town of Sandwich



city of each pot. There was a "master melter" on the job whose duty it was to know when the substance or "metal" was ready for "working".

The glassmaker engaged in making an overlay lamp, say of three colors, gathered the molten glass for the first, or inner, cup from the pot by means of a blow pipe, which was an iron tube with a flattened end. The process of gathering was a skilled one. Great care had to be exercised in order that the glass should be free of bubbles or other defects. When sufficient glass for his purpose was gathered on the pipe end, he passed the pipe to the blower, who blew the bubble to the size required. Frequent recourse to the "glory hole" kept the glass at the right heat.

The alertness, calculation of temper of the metal, the precision with which each step was taken, mark these workers as men of surpassing skill.

The bubble of glass now had to be separated from the blowing iron. This was done by means of another workman and a "punky rod", or "punky iron" as it was commonly called, which was a bar of iron about four feet in length. A piece of molten glass was placed on the end of this rod and held against the top of the glass bubble on the blowing iron. Then the connection between the glass bubble and the blow pipe at the opposite end of the bubble from the punky iron was severed by means of cutting through the glass at this point with a sharp blade-like implement, together with a quick blow—and the glass bubble was left on the punky iron with an opening at the point at which it was severed from the blow pipe. Reheated at the "glory hole", it was then placed on the marver (the work table of the glassmaker) and worked into the required shape with trowel or other tools. Each cup went through the same process of blowing, reheating, shaping and gauging for

size and form. The second molten cup was placed outside the first, the third outside the second, each tempered to the necessary point.

The next step was the annealing process. Articles to be annealed were placed on trays or carriers joined together and drawn through the liers or ovens by means of a chain and windlass.

The huge ovens were open at each end, the heat decreasing gradually toward the rear so that at this end the annealed article was taken out cold. The trays were drawn slowly during this process.

DESIGN CUT THROUGH

The design on the overlay lamps was obtained by cutting through the outer layer or layers to the flint bowl first blown.

It can be seen readily how, by this method, a lamp of many colors was wrought. That which in its day seemed to pass as a product of ordinary skill now finds itself an object for signal distinction by art appreciators. That it is a just distinction goes without saying, for no one could make a study of overlay specimens without finding enthusiasm for the subject, and admiration for the workers.

These beautiful bowls were of ruby, blue, green, white and flint. Both glass and metal stems (usually brass or bronze) were used to support the overlay lamp; and marble, glass or bronze bases formed the foot.

Overlay fruit bowls and bottles were made by the same method.

This description of handling the molten glass applies in general to glass creation by the blowing process.

OPALESCENT GLASS

The opalescent ware made at the Sandwich Factory always has been accorded first place in that particular color among American glass products. In fact, the Boston and Sandwich Company was the first of American glass producers to make opalescent. My authority for this claim to distinction is the late William E. Kern, who was general superintendent of the Factory for many years.

Opalescent glass was made in England in the early part of the Nineteenth Century and the Sandwich Company secured the services of Rice Harris of England, an expert in this line, to come to its plant about 1838 and teach the process. Harris remained six months at Sandwich and received \$5000 and expenses.

Here again the enterprising, intelligent and progressive spirit of Sandwich workmen asserted itself. The men who were taught to make opalescent applied their skill and originality to the improvement of the formula of Harris. The result was not only a more brilliant opalescent shade but a combination of opal with other colors, namely milk white, light blue, pale green, and yellow.

*Creamer in
Opalescent
Ware*



*Owned by
Mrs. Hubert
Wood*

STAINED GLASS WINDOWS

Beautiful colored glass windows, for churches and institutional orders, were executed in the Sandwich Factory, although not to a large extent, it is true. As evidence, however, that the work of this nature was superior in craftsmanship and design, I offer the following communication which appeared 100 years ago in the *BOSTON TRAVELER* of July 29, 1831, "for the enlightenment of American travellers" in that day:

Mr. Editor: While on a journey to the Cape recently, I visited the Glass Works at Sandwich, and was much pleased with the great improvement evinced in this important branch of manufacture. The work of this establishment is said to equal anything of the kind imported; and, to judge from the specimens afforded, one would think the assertion abundantly sustained. Pressed glass is made here in large quantities and is now brought to much greater perfection than formerly; still, it seems to me susceptible of some further improvement in one respect—the selection of the patterns or designs. But what most attracted my attention was a window, stained and painted in the manner of the ancients: an art hitherto supposed to be lost. Here, however, is proof of its existence in this country; and the coloring is magnificent, the design chaste, and the whole beautiful. In the centre is the head of Christ, after Guido; the coloring of which is equal to any oil painting of that master; though it has always been thought impossible to produce the effect of an oil painting on glass in this manner. I think this window has only to be seen to induce the rich and influential to avail themselves of one of the most brilliant and durable means of decorating churches and other public buildings. When we have such talent amongst us, why not avail ourselves of it, and remove the impression

that the Americans have no taste for the arts? I made some few enquiries, respecting this splendid specimen and was informed that it was executed by a young man lately from England, who was engaged by this Company to stain cut glass, etc.; and that he understands the making of all sorts of colors on glass, or on the metal in the furnace; but that he was about returning to England. Surely, the spirited agent of this respectable Company will give the Bostonians an opportunity of seeing what can be accomplished at this Manufactory. I recollect seeing, not long since, a statement of the purchase of the picture of Washington, painted by Stuart. Would it not be an honor to the city to have that copied for some of the public buildings in this imperishable style of painting? It would be as durable as marble, and remain after an oil picture is destroyed by time. When the specimen alluded to is once seen in Boston it is hoped that some friend to the arts and the memory of Washington will not let this suggestion pass unimproved.

A TRAVELLER

The testimony of this Bostonian reveals the fact that exquisite color work was achieved in the Sandwich Factory more than a century ago, and should suffice to dispel the doubt that has frequently been expressed.

VASSAMARINE

Vassamarine or Gold glass, very beautiful and somewhat resembling the Venetian in color, was not made in the Old Boston and Sandwich Factory. This was a late product of the Cape Cod Glass Works which was established by the son of Deming Jarves in Sandwich. This explanation is offered in consequence of many inquiries recently received.

WITH SILVER MOUNTINGS

Leading silversmiths of the early days purchased from Sandwich the glass dishes, salts and bottles which were ornamented in their factories with silver mountings. These articles were in ruby and sapphire blue. The old Reed and Barton Company of Taunton and Roswell Gleason of Dorchester were large buyers from the Boston and Sandwich Glass Company.

Recently there were found in the attic of the Old Gleason Home, several beautiful Sandwich ruby bowls that had not been mounted. Letters were also discovered, the contents of which revealed correspondence between Mr. Gleason and the Sandwich Factory.

COLORS GLASS EGGS

Within the memory of the present generation it was a common custom in rural communities, wherever hens were kept, to place a glass egg in each nest of the poultry house. I am told that the glass egg served a double purpose. It was supposed not only to encourage the hen to lay a real egg, but kept her from seeking some hidden place outside the hennery when she decided to contribute her daily offering.

Whether or not the theory was correct, the practice was very general. Therefore glass eggs were made in abundance and the Sandwich Factory had its full share of this branch of glass production. These eggs were of milk white glass.

The making of glass eggs, however, was not confined to the kind referred to for hennery use. Sandwich also made colored glass eggs of the toy variety, and many of them were placed in the tops of vases to keep out the dust and to serve, too, as an ornamentation.

PEACH BLOW

Whether or not Sandwich made "Peach Blow" glass has long been a controversial question. I can furnish positive evidence that Peach Blow glass was made in Sandwich in 1875, though not extensively.

"Ted" Collins, as he was familiarly known, specialized in this type of glass. In the year mentioned Collins made an eight-inch plate with imitation fruit attached to it and presented this creation to my friend and neighbor, Minerva Pope Green, as a birthday gift. This glass was produced in various tableware articles in both a rough and polished finish.

The Peach Blow glass, when first formed from the metal, was distinctly yellow in color but by means of extreme heat, gradually reached in the fire, the yellow tint was softened and transformed into the Peach Blow shade. It can readily be understood that this was a costly process; the output was limited.

Practically the same story that describes Peach Blow Glass applies to "Bermise" Glass which varied in color and was also a limited product of the Sandwich Factory made in the late years. Bermise ranged in color from mahogany to dull yellow.

Old Whale oil lamps at Sandwich Historical Society



SANDWICH ALABASTER

In 1880 a large chemical company, engaged in the manufacture of a certain salve, ordered a large number of glass receptacles with covers. In placing the order it was explicitly required that these salve holders should not be of milk white glass as had long been the custom. Neither was the opal or opalescent shade desired. No particular color was stipulated but something "different" was demanded.

Superintendent George Lafayette Fessenden set himself to the task of evolving the proper color for a glass salve box. He realized that neither sapphire blue nor golden ruby would fill the bill. Canary was too close to the shades that had been eliminated. Lavender or jade were not suitable.

Remembering the words of Charles Lapham, who made the first piece of glass in the Sandwich Factory, "If it's glass we make it", Mr. Fessenden conferred with his color specialists and the result was an alabaster which proved most satisfactory. This alabaster became a popular shade and alabaster lamps, made with gold leaf trimming, were very attractive.

SILVERED SANDWICH

Probably no type of Old Glass has puzzled more people than the "Silvered Sandwich." Many collectors with whom I have talked expressed surprise to learn that the Boston and Sandwich Factory produced a very fine grade of silvered ware. Many find it difficult to distinguish between Silvered Glass and Silver Lustre china.

The difference between this glass and china products is appreciable indeed. In making this kind of china, a silver deposit is applied to the exterior of a very

dark colored ware. It is exceedingly durable, especially the early English make, though not as bright as the silver sheen of Sandwich Glass.

Silvered Sandwich Glass is entirely different in its composite nature and will retain its lustre indefinitely if proper care is taken to preserve it.

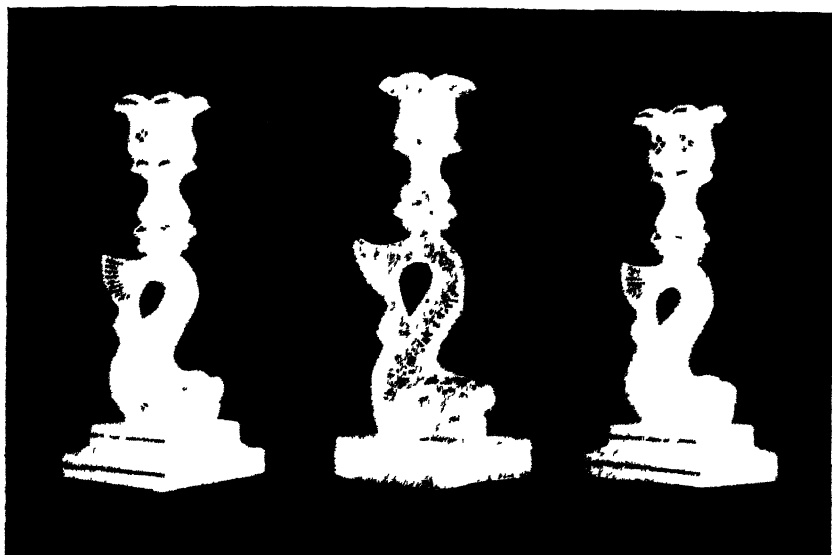
This particular type of glass was made in this manner: First a thin blown flint glass vase, bowl, salt, or whatever article was desired, was formed from the heated metal; then a mercurial silver substance was used to coat the glass; next another thin layer of glass was cupped over the silver surface. Thus Sandwich Silvered Ware consists of flint glass inside and outside with the silver between.

This formation is deceptive to the eye, as to all appearance the silver coating seems to be an outside application. Frequently the silvery mixture was poured into the space between the glass layers through a hole where the pontil is located. Upon examination it will be found that the hole was afterward plugged with cork or other substance.

Now; to refer again to the necessity for care in preservation of Silvered Glass: The seal which closes the aperture alluded to must be kept closed for, once the air is allowed to enter, the silver coating deteriorates and gradually disappears.

AMBERINA

Amberina glass was another type peculiar to Sandwich. This color effect was accomplished in the same way that Peach Blow was evolved. The Amberina metal was a clear amber color when taken from the pots and moulded into form. Then the article was reheated in the *lier* until that bright mahogany hue, which was called amberina, appeared.



Old Sandwich Dolphin candlesticks. The pair belongs to the Mes^{ses} Eliza and Laura Wing of Sandwich. The centre one is owned by Mrs. Martha Barry of Sandwich

Grecian type of Old Sandwich candlesticks with acid finish. This pair is owned by Miss Grace Irwin of Sandwich, whose father was a skilled Sandwich glasscutter



NOTABLE COLLECTIONS

There is a goodly number of valuable and interesting collections of Old Sandwich Glass in all parts of America. In fact, a creditable display can be seen in some home or institution in every State of the Union and parts of Canada. I say this of my own knowledge gained by the contacts made with nearly ten thousand collectors who visited the exhibition which I was privileged to manage in 1925 for the Sandwich Historical Society in commemoration of the One Hundredth Anniversary of the founding of the Sandwich Factory.

The largest, most varied and rare collection of Sandwich Glass in the world is owned by Mrs. Helen Julia Hutchins of Worcester, Massachusetts.

Mrs. William Greig Walker of New York City has collected and exhibited many marvelous specimens of Old Sandwich Glass which include nearly every rare and desirable pattern. Her lace pieces and complete sets of Bell Flower, Lion, Pineapple, Thumbprint, Westward Ho, Loop, Rose and other standard designs are exquisite. Mrs. Walker has done much more than collect. She has arranged. Her interpretation of Old Sandwich Glass in artistic and effective modernistic settings has enhanced its charm. Her skill in assembling has assured a permanent place in the modern home for old Sandwich Glass.

In his Museum at Dearborn, Mr. Henry Ford has a large and valuable collection of Old Sandwich, widely varied in design and including a large number of rare specimens. Early lamps and candlesticks are favorite acquisitions of Mr. Ford. Industrial and Bee Hive plates of lace are feature pieces in the motor magnate's display. It was my privilege to supply a

considerable portion of this collection to Mr. Ford.

The first upright engine used in the Sandwich Factory and the old office safe are choice possessions of Mr. Ford. These relics I obtained for him from Sandwich homes. Thousands of the old hard bricks from the Factory ruins have been preserved in an interesting fireplace by Mr. Ford and the old cutting shop frames, too, are set up at Dearborn. These also were acquired through me.

Mrs. George W. Mitton of Brookline and Cape Cod is a discriminating collector and a pioneer in promoting interest in Sandwich Glass.

The most complete collection of Old Sandwich amber glass is owned by Mr. R. J. Healey, Worcester.

Mrs. A. W. Childs of Cambridge, daughter of Nathaniel J. Bradlee, a director of the Company at the time the Factory closed, has a typical collection which came to her from her father.

Mr. C. W. Brown, Ashland, Mass., has a very large and choice collection of glass salts, including nearly every type and design of Sandwich salts.

Mr. Gustav W. Goerner, Boston, Mass., has a varied and select assortment of Old Sandwich picked up in all parts of New England.

The Sandwich Historical Society has in its rooms some very fine specimens donated by the families of old glassworkers and the exhibition is open for public inspection during the summer months.

An outstanding article in the Society's treasure group is an old ruby glass lantern made for the Lincoln presidential campaign. This square beacon bears the engraved name of the martyred President and was carried through the streets of Sandwich by the Lincoln paraders. The inscription reads "Lincoln and Hamlin".

Splendid specimens of overlay lamps, whale oil

lamps and lace glass pieces are included in the Historical Society collection. Installed there also is the old Factory bell which called the men to work; a crude old iron mould reposes in a corner. Probably the choicest and rarest article of Sandwich Glass in the Historical Society collection is the Sandwich Glass Bank made in 1831 and illustrated on another page.

In the homes of Sandwich families of old-time lineage there are rare heirlooms of special creations of Old Sandwich Glass, many of which were never of the commercial type.

Noteworthy collections on Cape Cod are those of Col. Charles L. Ayling at Centerville; ex-Congressman Thomas C. Thacher at Yarmouth; Mr. Thomas Nickerson and Mr. Kenneth D. Steere at Harwich; Mrs. George Baker at West Dennis; Mrs. John C. Spoor at Osterville; Mrs. R. M. Roloson, Cotuit; Mr. Joseph C. Lincoln, Chatham; Mr. F. W. Fabyn, Buzzards Bay; Mrs. Alice N. Judd, East Dennis; Mrs. W. G. McRee, Yarmouth; Mrs. Walter P. Wright, Hyannisport; Mr. and Mrs. H. E. Howe, Woods Hole; Mrs. Howard C. Rand, Osterville; Mrs. Joseph P. Kennedy, Hyannisport.

In her New York home and at "Blue Blinds", the Barnstable summer estate of Mrs. Harry Jaqueline, a collection that would do justice to a museum has been acquired. Mrs. Jaqueline has a set of old whale oil lamps with dolphin stems which I do not believe can be duplicated. Dolphin candlesticks and a variety of overlay lamps are among her choice possessions. Another gem is a tall, plain glass peg lamp of beautiful proportions, the best specimen of its kind I have seen.

Charles O. Dexter, of New Bedford, has acquired an extensive collection of Old Sandwich pieces, many of which are kept at his Sandwich estate, "Shawme".

A pair of Sapphire blue candlesticks in lacy effect, formerly owned by the Gen. Warren family of Boston, stands out in Mr. Dexter's collection.

George F. Dennis, of Sandwich, has a blown sugar bowl made by Samuel Kern, one of his ancestors, in 1829.

Col. and Mrs. Joseph Cecil, of Falmouth, have a valuable collection. Their Peach Blow set is probably the largest and finest in existence. A ruby epergne features the Cecil display.

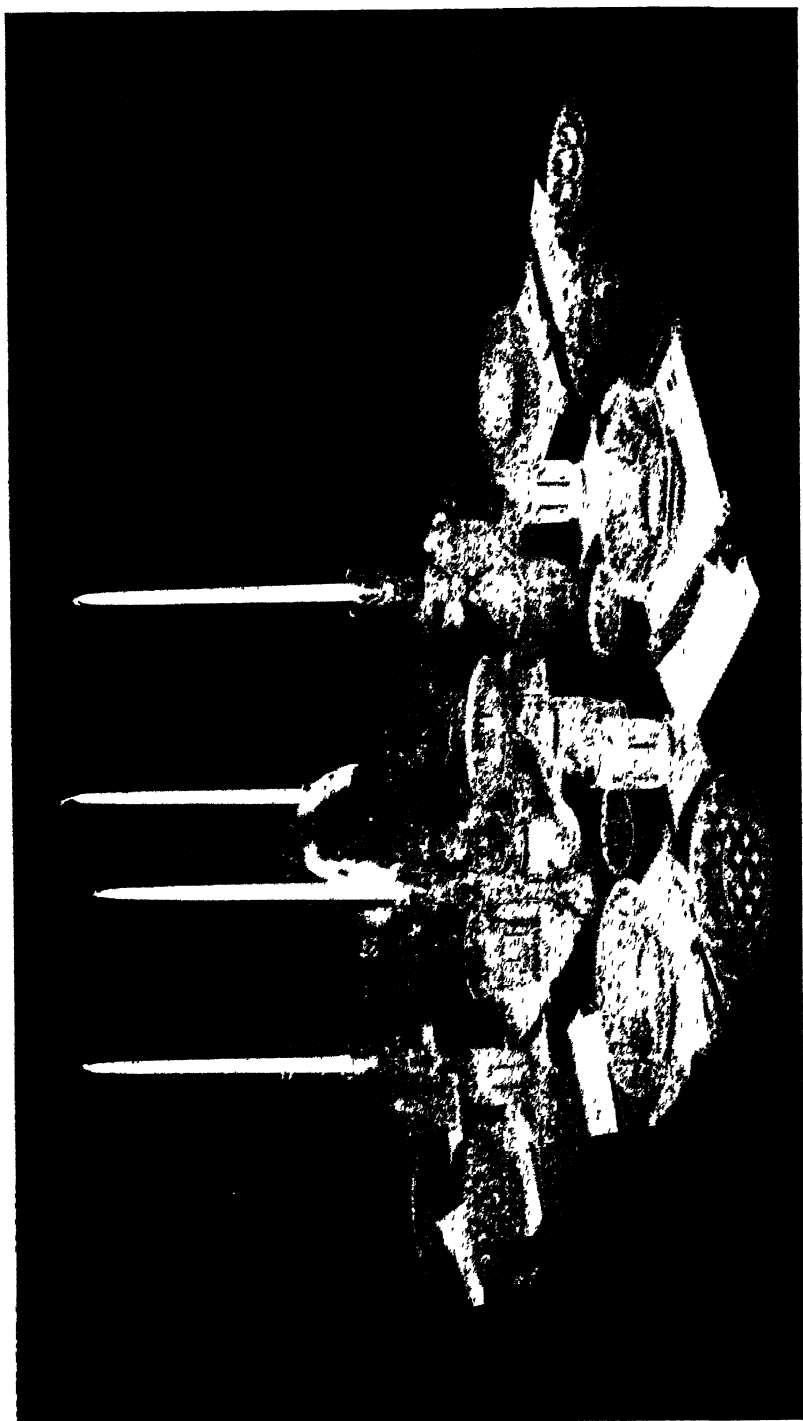
In the Academy of Fine Arts at New Haven, Connecticut, reposes a large punch bowl of "Sandwich Pattern" indexed "Made by Deming Jarves at the Sandwich Glass Factory". Other fine specimens are included in the collection displayed by the same institution. The Metropolitan Museum of Fine Arts in New York City also has a collection of rare pieces.

Worthy of mention in unique design, also, are:

A tall, gracefully-shaped glass goblet with a tiny china doll inserted in the stem and richly engraved with this inscription: "To Rebecca Newcomb, our beloved teacher, from her pupils of the Class of 1860". This memento, in all its original beauty, is now owned by Miss Martha Newcomb, of Sandwich, niece of the deceased recipient.

A shapely, well proportioned lamp with a china doll standing erect in the stem is the property of Miss Ella Briggs.

An overlay ruby jug intricately cut, with stopper to match, and the designations "Whiskey" and "Rum" engraved on the sides; a marvelous lamp with frosted and engraved dome, prism dangles, bronze stem in Corinthian style with bust of Washington in bas-relief encircled by a wreath and surmounted by a spread Eagle—these prize pieces are owned by Mrs. George S.



Still another set of Sandwich Lace Glass. From the collection of Mrs. William Greig Walker

Wing, of Sandwich, and were the gifts from the Company to her grandfather, William Boyden. Initialed wines and a glass bell are included in Mrs. Wing's collection.

An exquisite pair of paper weights with floral design and rich in color, to which are affixed metal screws, adorn the wall and support an old mirror in the home of Mrs. William Smith. These were made by her brother, Nicholas Lutz, the expert in paper weights and color work.

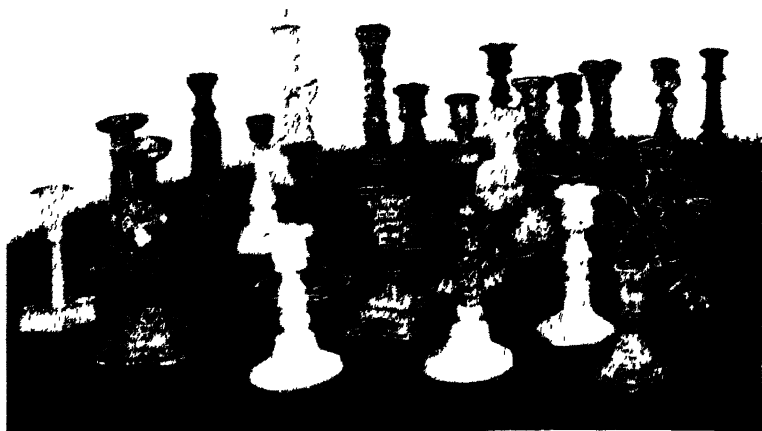
A tall, blown-glass flower vase of graceful proportions, made in 1857, is still the property of the First Church Society of Sandwich. This special creation bears the engraved inscription: "Presented to The First Church, Sandwich, by the Female Benevolent Society, 1857".

The Dickinson family of Ligonier, Pa., has a complete set of one dozen drinking tumblers, made to order more than half a century ago, of a size and shape different from any of the stock patterns of that period.

Some fifty years back, Augustus R. Pope, the local ice dealer, when delivering ice in the vicinity of the Glass Factory, was occasionally asked to leave a cake on the window sill of the Packing Room. A package of glass was usually left on the same sill which Mr. Pope accepted as his recompense for the ice. Most of this uniquely-acquired collection is still in Mr. Pope's possession.

An epergne of charming lines, a colored perfume bottle, lamps and vases of unusual pattern, are the keepsakes of Mrs. Charlotte Chipman, granddaughter of Charles Lapham, the Old Sandwich gaffer, whose handiwork is so well exemplified in these particular creations.

A blue top Dolphin candlestick made by Michael



*Part of a group of Sandwich glass candlesticks owned by
Mrs. Edna Clark, New Bedford*

Grady has first place in the collection treasured by his daughter, Mrs. Louise Lambert.

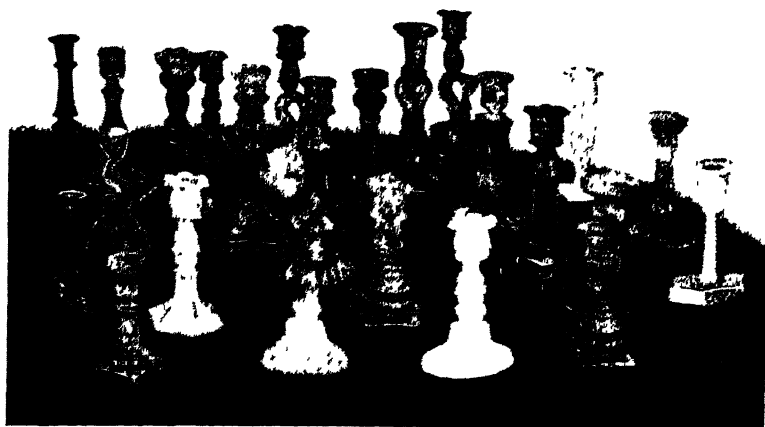
A blue overlay lamp, Eagle cup plates and a lace dish are highly prized by Miss Mary Fish as relics of the Factory days brought home by her father, Nathaniel Fish, the carpenter of the plant.

Albert Govoni, proprietor of the Daniel Webster Inn, is the proud possessor of a large pair of decanters in Pineapple pattern found in the attic of his hostelry.

Mrs. Lillian Tangney cherishes a dainty set of silvered glassware made especially for and presented to her father, Edward Haines, more than half a century ago.

The largest and most valuable lot of richly cut glassware in the town is owned by Mrs. Lena Clayton. The patterns were designed by her father, Nehemiah Packwood, the expert of the Cutting department. The cutting was done by Mr. Packwood, his son, Nehemiah, and John Jones.

Jonathan Leonard, of Sandwich, has several interesting heirlooms in glass creations. The most unique



*The rest of the group of Old Sandwich glass candlesticks
owned by Mrs. Clark*

specimens are a pair of salts made in experimentation and without duplicate, so far as known. These salts are of the silvered ware variety in ruby color with silvered ovals between ruby squares. They were made by John Jarves, son of Deming Jarves, and first husband of Mr. Leonard's mother. A cut ruby cream pitcher and a graceful vase, in Venetian style, engraved and given as a wedding present to Jonathan Leonard's mother, are other choice pieces in this collection.

Charles S. Lloyd, of Sandwich, has some most unusual specimens, among which are pieces turned out for the purpose of objectifying the ideas of his father, James D. Lloyd, the color evolutionist of the Factory. An outstanding creation is a beautiful hanging lamp which adorns the lower hall of Mr. Lloyd's home. This gem is a six-sided light set in exquisite brass mounting. The glass panels are of ruby color, each pane richly engraved in different design. There are three floral patterns besides a stork, a knight and "Elaine". This is an early product. In the upper hall hangs a smaller light, the dome of which is Sandwich Bermise, one of

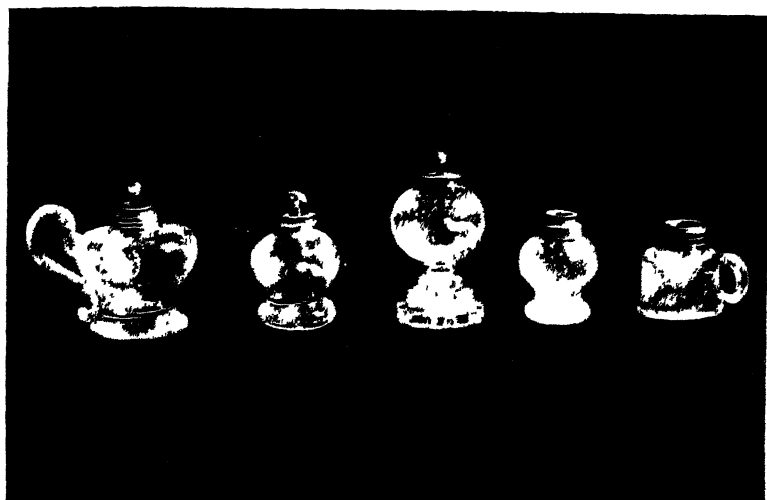
the last color effects evolved in the Sandwich Factory. Three beautifully cut ruby bowls, a lavender wine glass and plain, thin, blown tumblers, with a fish engraved on the side, are other choice possessions of Mr. Lloyd.

Unique and authentic articles are also abiding in the cabinets and on the shelves at the homes of Mr. William L. Nye, Mrs. Melissa Ellis, Miss Abbie Nye, Mrs. Edgar H. Moody, Mrs. Edward Swan, Miss Louise Brady, John Maley, Mrs. Martha Barry, Miss Caroline Pope, Mrs. Asa Wing, and the Misses Caroline and Sarah Crocker.

William Kern, of New Bedford, son of the late William Kern, has some of the most valuable and authentic pieces of Old Sandwich Glass in existence. Included is a set bequeathed to the son by the elder Kern, a special creation presented by the Company to William Kern, deceased, upon his retirement as superintendent of the Factory in 1864. This set comprises fifty-four articles of blown flint glass engraved with a vine pattern and initialed K. There are goblets, wines, nappies, compote, berry dish, spoonholder, sugar bowl, pair of decanters, butter dish and pitchers. With the exception of a few wines and goblets the set is in perfect condition.

A single gem which Mr. Kern prizes as an heirloom is a cut ruby jug which is artistically engraved with fruit and flowers and bears the inscription, "Eng. March 27, 1867, by G. F. Lapham". Another treasure is a purple glass vase which the elder Kern made as a replica of an Old Roman vase owned by Corpus Christi Church, of Sandwich.

While these possessions of Mr. Kern are outstanding as things of glass, he owns the original record book, called "Sloar Book", of the Old Sandwich



A group of Old Sandwich spirit lamps

Factory. This heavily-bound volume contains the names of the gaffers and assistants of the four original shops with the weekly wage paid each individual and the output of each shop daily itemized. Beginning with the very opening of the Factory as a producing plant in July, 1825, the daily records are dated and detailed.

The four original shops were manned as follows:

SHOP No. 1

John Snowdon
Joseph Crosby

Samuel Kern
Two Boys

SHOP No. 2

Benjamin Haines
Benjamin Jewkes

Alfred Green
Two Boys

SHOP No. 3

John Doyle
John Scott

I. Fessenden
Two Boys

SHOP No. 4

Thomas Lloyd
Samuel Lloyd

Charles Lapham
Two Boys

In 1828 two more shops were added as follows:

SHOP No. 5

M. Doyle
—— Arratt

William Lapham
Two Boys

SHOP No. 6

S. Barnes
G. Scobie

Thomas Marsh
Two Boys

During these first few years the articles made and entered in this Sloar Book were: Petticoat lamps, squash lamps, tall lamps (referring presumably to whale oil lamps), cup plates, salts, nappies, candlesticks, dishes.

THE DANIEL WEBSTER SET

In 1841 a special set of Sandwich Glass table ware was made and sent to Daniel Webster, then a member of the United States Senate. The following acknowledgment in Webster's own handwriting was received by Deming Jarves:

Washington, July 10, 1841.

My dear Sir:—

I have to thank you for your very handsome present of glass which arrived yesterday. All the pieces came safe and are exceedingly elegant.

They have substance as well as beauty and I shall have much pleasure in exhibiting them as specimens of the skill and industry of Massachusetts.

I please myself with the hope that I may find leisure before autumn to visit Sandwich once more, a spot in which I have spent so much agreeable time in years past.

With renewed thanks for your kind remembrance, I am, dear sir,

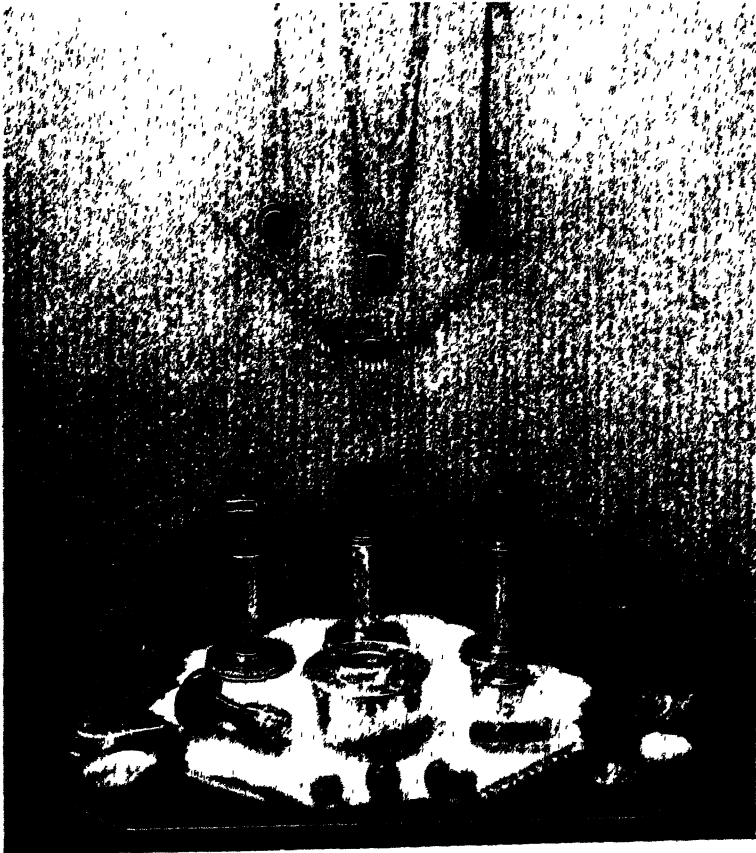
Yours truly,

Deming Jarves, Esq.

DANIEL WEBSTER.

In 1850, a glass bowl made in the Sandwich establishment was presented to Mr. Webster, of which, Deming Jarves in an accompanying letter said: "It claims the merit of being much the largest piece of flint glass made by machinery in any part of the world. Two machinists were employed six months in forming this mould. This bowl is the first made in it, and is called the Union Bowl. The name will not render it less valuable."

*Old Sandwich in its very latest phase—the glass modernized
in Mrs. Hazel Blake French's interpretative jewelry*



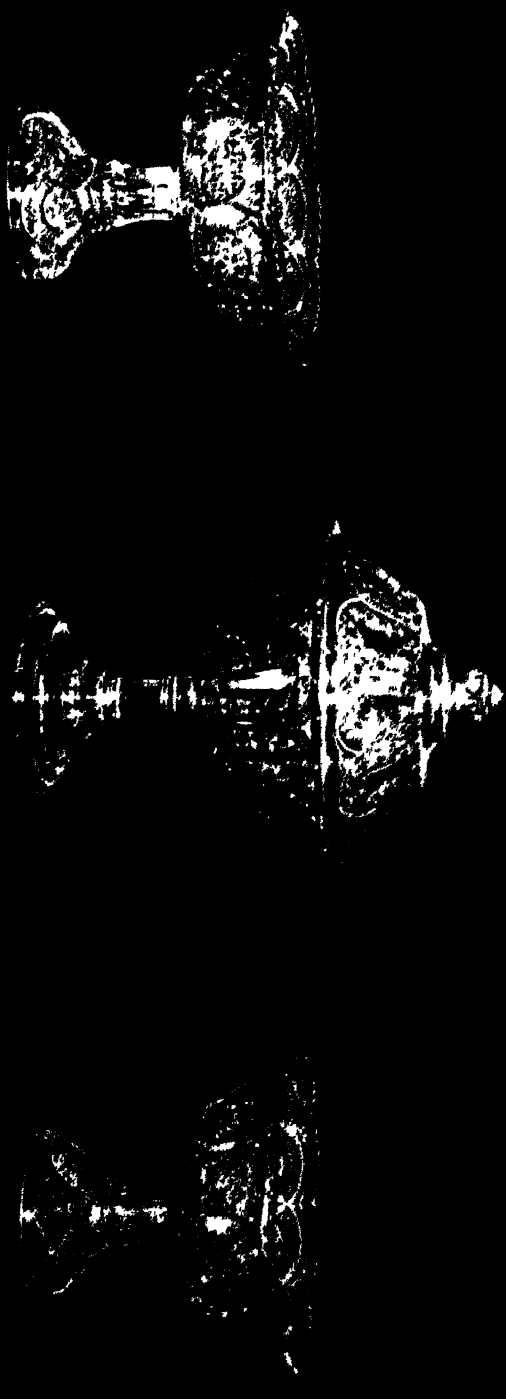
LATE SANDWICH

It is now forty-three years since the Sandwich Factory ceased to manufacture. I speak with authority when I state that during its later years this Factory made just as large a proportion of beautiful shapes and designs in glassware and used just as high grade materials as characterized any period of its existence. The so-called ugly pieces were made in all things at all times and are typical of no particular period.

Many pieces of what has been called "late Sandwich" are close to the half century mark in age and are becoming rare and desirable. In this connection I have noted that there are collectors who take pleasure in the use of their Sandwich Glass, as well as those who place it in cabinets for display. The former type of collector undoubtedly has a disposition toward beauty and color suitability. Goblets, sugar bowls, creamers, sauce dishes, all must fit into the scheme of some color or pattern arrangement in the home, that the whole may follow some special personal design the homemaker has in mind. Many products of the eighties have answered to these color and utility demands, and objects scorned perhaps by one collector become the means of pleasure and service to another.

There is a fitting place for everything, but this is never entirely dependent on the particular year of its production. Vases and toilet sets made in Sandwich not over fifty years ago have lent themselves to this idea of color; many glass lamps, colored in bowl and stem, artistic in design and of fine quality, were late products.

I would call attention to the engraved and



Three compotes in Late Sandwich ware. Collection of Mrs. William Greig Walker

etched products of the later manufacturing years in the Sandwich plant. Even the collector who gauges the value of his "find" by its age must admit that this was a period in which much rare beauty was expressed. A large proportion of the most beautifully engraved and artistically designed goblets, decanters, wines and lamp globes ever produced in glass were made in the Sandwich Factory as late as the eighties. The undisputed craftsmanship of early Sandwich Glass was equalled if not surpassed in artistic accomplishment during the last fifteen years of the plant's existence. Many lovers of glass have discovered this fact.

BURIED TREASURE

The privilege of making glass articles for home use or ornament at the mere cost of the metal was not only extended to journeymen glassmakers but apprentices occasionally were allowed the same indulgence.

It seemed to be a common ambition to make a paper weight and sooner or later every boy tried his hand at this feat. Usually Nicholas Lutz was induced to make the colored centre and then the tyro tested his skill at dropping the cup of flint glass over the colored centre.

It frequently happened that the novice failed to balance his cup or perhaps erred in properly heating the two parts. Determined that the gaffer or an official of the Company should not discover his blunder, the young fellow would make a hasty trip to the Factory Yard and deposit his imperfect creation in the open well.

In recent years many a paper weight or other defective glass article has been "fished" from that well. Colored glass curtain pulls and jade salts, slightly

"off" in color and shape, buried in the Yard a half century or more ago, have been resurrected by the youngsters of today who live near the ruins and dig up its hidden treasures.

Considerable revenue has been realized during the past five years by digging in the old Factory Yard or raking over the cullet heaps of colored fragments. That more finds are yet to be unearthed there is no doubt.

THE DOORS CLOSE

The end of the old Sandwich Glass Factory was as tragic as its beginning was romantic. Confusion prevails to a considerable extent in regard to the circumstances and conditions which resulted in its closing. The facts were these:

The glassmakers' union was one of the first labor unions formed in America. The glassmakers of all the other factories in this country organized their respective bodies long before Sandwich workers took the step. In fact, it was only after much influence was exerted from outside that the local union was formed.

This was in the late eighties. Deming Jarves was no longer the guiding genius of the Boston and Sandwich Factory. New directors and other workmen were carrying on. Competition in the glass industry was having its effect there. New York, Ohio and Pennsylvania factories were forging ahead as their locations were more favorable on account of natural resources.

The Sandwich union was formed just previous to 1888. The time was not auspicious; business was waning and the management in no mood to tolerate anything that seemed to them to threaten dictation.

In justice to the workmen it should be said that the Sandwich union was not formed for the purpose of protesting wages or working conditions.

It never has been disputed that the Boston and Sandwich Glass Factory was, in a physical sense, the best equipped plant in the country for comfortable working conditions. Pay in general was satisfactory.

The directors of the Company posted notices in the Watch House, stating that they would reserve and exercise the right to employ whom they pleased, whether union or non-union men. A few minor disputes arose which seemed to be kindling some real trouble.

One man finally was docked. The amount was trivial, less than one dollar, but a crisis had arisen.

Nathaniel J. Bradlee, of Boston, leading director of the business, was notified and he prepared to come to Sandwich to iron out the difficulty. Mr. Bradlee was a man of sound business acumen and it is known that he had prepared careful and exhaustive plans for a just and friendly settlement of existing troubles.

Mr. Bradlee was suddenly taken ill and died before he was able to save the situation. There was no one who was inclined or fitted to step into the breach. The workmen stood by their member; the management refused to recognize his claim as justifiable and peremptorily proceeded to close the Factory.

The moulds were destroyed, the stock on hand was gradually disposed of; a great industry ceased.

During the sixty-three years that the Sandwich Factory was in operation, the glassmakers daily entered the plant, performed the day's work and returned home at noon and night with never a time clock or other device for recording their attendance.

At six forty-five every week day morning the

old Factory bell was rung as a reminder that the glass-makers were expected at seven, in the same manner that church bells reminded the good people of each parish of the hour of worship at hand.

It is not disputed that the employes kept faith with the Company and merited the trust that the officials placed in them.

While the closing of the Factory in 1888 marked the end of the Boston and Sandwich Glass Co. regime, there were other interested parties who attempted to re-open the plant and carry on a glass making business.

The old Company had destroyed its moulds and disposed of most of the glass on hand but the Factory otherwise remained equipped; the furnaces were in fairly good condition and some of the pots were available.

This resumption of glassmaking a few years later was under the direction of a man named Shirley who succeeded in getting Charles W. Lapham, then a very aged man, to gather the first piece of glass on the day of re-opening just as he had done on July 4th, 1825, in the original plant.

Lamp shades, domes and some tableware, principally goblets and tumblers, were turned out but the enterprise was short-lived due to the lack of sufficient capital.

Many of the younger Sandwich glassmakers went to other glass centres and in Somerville, Mass., Monaca, Pa., Fostoria, Ohio, and Corning, N. Y., continued the pursuit of their trade.

Gradually the old furnaces and giant smoke stacks fell, the roofs of the buildings rotted away and the brick buildings were dismantled. The only building left standing today is the old brick Store. Although remodelled inside and occupied as a dwelling,

its exterior remains as it was built. The staunch old iron S braces, a curiosity in themselves, still hold the building together.

. More than twenty acres of ruins now remain where once stood a thriving industry. Thousands of the old hard bricks, twisted iron pipes and girders, granite foundations and fragments of glass tell the tragic tale of a lost art and bear mute testimony to the memory of an institution of world-wide fame.

* * * * *

As a descendant of Sandwich glassmakers who witnessed the transition from triumph to ruin, I can readily understand the feeling of personal loss expressed by Maud Howe Elliott, daughter of Julia Ward Howe, when in her book "Three Generations", she recalls to memory the old Factory of which her uncle, Joseph Howe, was at one time president. Picturing Thanksgiving dinner in her uncle's fine old home at 4 Ashburton Place, Boston, she writes:

"The table was decorated with glass flagons and goblets, rose, ruby, pale and dark green, some covered with gold arabesques—triumphs of the Sandwich Glass Factory. With dessert came the thin, pink finger-bowls; the children dipped their fingers and rubbed them round and round the rims producing a faint elfin music I never hear without a vision of the Ashburton Place dining room.

"A few years ago, motoring on Cape Cod, the way led through a fine old town, full of Colonial houses and wide streets lined by magnificent elms. 'What's this place?' I asked. 'Sandwich,' the name blew back from the lips of our host. Soon we passed a huge brick factory with broken windows, smokeless chimneys, deserted, forlorn, yet with something that spoke of past greatness."

CHIPMAN'S
DICTIONARY
OF OLD
SANDWICH GLASS
PATTERNS

CHIPMAN'S DICTIONARY OF OLD SANDWICH GLASS PATTERNS

A. B. C.—An alphabetical border on child's plates.

ACANTHUS—A Corinthian design of Acanthus Leaf with varied conventional scroll. Found on cup plates and lace glass dishes.

ACORN—Appears with the leaf of the oak as a design, or the acorn may be found on the top of the cover to a bowl or dish.

ALBANY—Plain blown goblet with bulging bowl.

ALBION—A short, heavy, tapering design of tumbler.

APPLE—This design is found in the colored centre of a paper weight or engraved in a fruit pattern.

ASHBURTON—A goblet pattern with thumb print or short fluting on lower part of bowl. The name undoubtedly was derived from Ashburton Place, Boston, where lived Joseph Howe, one of the Company's presidents.

ASTOR—A tall, graceful, plain-surfaced tumbler or goblet for bar use. Has an oval stem bulging near the foot.

BANK—A rare creation, made in 1831, with a dime dated 1831 inside. A rooster is poised on top of handle and there is a coin slot in the bowl.

BANKS—The head and bust of Governor Nathaniel Banks of Massachusetts (1858-1860) in the centre of a plate.

BARREL—A salt pattern with metallic top or a candy jar of

quart, pint or half-pint size; with hoops.

BASKET-WEAVE—Made in plain flint, acid finish and milk white table ware.

BEAR—Bruin himself on haunches—a match safe in black, purple, blue and white colors.

BEE HIVE—This pattern characterizes the famous lace plate of that name; also found on cup plates. The thistle often appears with it.

BELL FLOWER—A standard Sandwich pattern in ribbed glass; five variations, shows flower, stem and leaf. Made in all table ware.

BENJAMIN FRANKLIN—A cup plate design. Shows full-rigged ship in centre around which is inscribed "Benjamin Franklin."

BIRD—The form of a bird in sitting posture. In the centre of the back is a circular depression for holding salt. Known as bird salt. Plain flint and in colors.

BIRD AND BUTTERFLY—Two birds and two butterflies in a plate.

BLACKBERRY—Showing berry cluster, leaf and stem.

BLEEDING HEART—(Bikukulla Spectabilis) Much desired pattern. Easily identified by the floral designation. Table ware pattern in dull flint and lacking resonance.

BLOCK—The surface laid out in blocks or squares.

BLUE JAY AND HOLLY—The bird and the shrub—on goblets.

BOAT—This pattern found in salts, the outstanding one being the Lafayette boat salt. "Lafayette" inscribed on the stern and "Sandwich" in the bottom. The only Sandwich creation with name of Town or Factory thus designated. The Boat pattern in varied size and shape, without inscription, is found in pickle dishes and pin trays.

BUCKLE—A well known pattern in table pieces.

BUCKLE AND GRAPE—Showing the buckle and bunch of grapes.

BULL'S EYE—Sometimes called Thousand Eyes. General table ware. The pattern varies in size of the orb.

BULL'S EYE AND BAR—A group of perpendicular bars with a bull's eye between groups.

BULL'S EYE AND STAR—Popular pattern, sometimes called Moon and Star. Factory name "Star and Punty." The surface is a series of orbs with a star in each circle.

BUNKER HILL—The familiar cup plate with design of monument.

BUTTERFLY—Another cup plate design. The butterfly, with spread wings, occupies centre of cup plate.

CABLE—A popular Sandwich pattern evolved in recognition of laying of the French cable. Varies in size of strand and cable. Frequently forms handles of trays or edges of dishes. In table ware.

CADMUS—Replica of the famous ship that brought Lafayette to America—a cup plate design.

CANE SEAT—Weave like the chair seat. Factory name Sandwich.

CAPE COD—A plain, blown goblet with star bottom.

CAT—Found in various poses on children's mugs.

CAT-O-NINE-TAIL—In sheaf motif—a goblet pattern.

CATHEDRAL—A design found on a few whale oil lamps, particularly the alabaster type.

CENTENNIAL—Shows the Liberty Bell—made and inscribed in honor of the 1876 Exposition at Philadelphia.

CHANCELLOR LIVINGSTONE—A rare pattern found only on cup plates.

CHERRY—Shows cluster of fruit and leaves—in dull flint.

CHRYSANTHEMUM—A popular design of general table ware made 1880 to 1888. The leaf only shown. Another dull flint product.

CLAXTON, KATE—Her face on a goblet or plate.

CLAY, HENRY—This pattern confined to cup plates—with head of the statesman and name inscribed.

COLONIAL—The generic term applied to salts, lamps, vases, tumblers and compotes which have no surface figure but general Colonial form.

CONSTITUTION—Another cup plate pattern, showing the famous old frigate in full rig.

CORD—Sometimes called Rib; a surface pattern of corded effect as appears on Bell Flower or Ivy glass.

COW—The animal occupies the inside bottom of a dish, rarely found except in butter dish.

CRABTREE, LOTTA—Goblet pattern with face of the actress.

CRACKLE—A surface pattern in irregular mode.

CRADLE—Salts and novelty pieces were made in this pattern. The salt is minus the hood.

CROSSED SWORDS—The swords are crossed in centre of cup plates, nappies and lace dishes.

CRUCIFIX—An ornamental cross in flint or color. The figure of Christ on the Cross. This also appears on candle sticks.

CUPID'S DART—The arrow pierces the heart; sometimes two hearts. Another cup plate pattern.

CURRENT—The berry design.

CURTAIN—A drape effect with conventional background. This pattern much used on engraved glass.

DAILY BREAD—A Sandwich plate bearing the inscription "Give us this day our daily bread." Usually a sheaf of wheat occupies centre of plate. Sometimes the figure of an ancient character appears also. Occasionally the plate has rope or beaded edge.

DAISY—The flower and stem found in table ware in flint, blue, purple, yellow and amber glass.

DEER—The buck and doe, found on pressed glass and commonly the design on etched and engraved ware.

DEW DROP—A choice Sandwich pattern; sometimes called Pin Point. Shows a series of tiny drops, with silvery sheen.

DIAMOND-POINT — Factory name "Raised Diamond." An early table ware pattern, frequently but erroneously called Pineapple. Heav-

ily pointed with facet of the diamond.

DOG—The animal as the adornment of a child's mug.

DOLPHIN—A famous Sandwich creation; the fish serving as the stem of candle sticks and compotes. A few whale oil lamps are found with Dolphin stems.

EAGLE—A cup plate design dated 1831. The eagle also appears on lace plates and dishes.

ELAINE—The figure of Tennyson's flower girl plucking flowers, in acid finish, occupies centre of a plate. This plate frequently has series of bars and ovals as its border.

EMPIRE—A heavy tapering plain-surfaced tumbler of the empire period.

FIFTH AVENUE—Pattern of a tall bar tumbler with long flute.

FROG—Another pattern common on child's mugs.

FUCHSIA—Rare floral pattern in raised cluster on table pieces.

GARFIELD—The face and bust of the martyred President on late Sandwich plates.

GOTHIC BAR—A Gothic design of bar tumbler with thick bottom.

GRANT—A reduced size of "Raised Diamond"; made during that President's term of office; brilliant in sheen and very resonant. A plate bearing the face of Grant also was made in Sandwich.

GRAPE—A standard Sandwich pattern in five varieties.

GRECIAN BORDER—Found on table ware, circling the article

about one inch from top edge. A female Grecian figure in acid finish serves as the stem of some Sandwich vases and candle sticks.

HAIRPIN—Found on goblets and dishes. The pin alternates with a punty or small bull's eye.

HAMILTON—Commonly called "Sunburst." Derived from Old Irish Waterford design. A desirable and standard table ware pattern.

HAND—The human hand in single and double types. Fingers and nails clearly defined. Made for pin trays. Usually in lavender color.

HAT—The form of a silk hat. Made for match or toothpick holder in nearly all colors. The surface is in "Sandwich pattern."

HEART—Several varieties. Found principally upon cup plate borders and centres. Twelve or thirteen hearts—as a border ornament. A large plain heart is found on one table ware creation.

HEN—The form of a hen as a cover for an egg dish.

HOB NAIL—Distinctly patterned after the nail of that type. Many times confused with "Raised Diamond." The pattern has a rounded point, not sharp like the diamond.

HOLLY—Branch and berries of the shrub.

HORN OF PLENTY—An old standard Sandwich pattern in several varieties. The horn in one is perpendicular; in another horizontal. In general table ware the pieces are stippled on the lower half. Also found in lace pieces in more graceful position and shape.

HUBER—A goblet pattern with plain bowl and long fluted stem. Fluting often called panel.

INDUSTRIAL—An old and rare pattern on lace plates. Shows Log Cabin in center. Around the border are the factory, the full rigged ship and the ploughman.

IVY—Table ware pattern, ribbed or corded in same manner as the Bell Flower ware.

LAFAYETTE—The name is inscribed on the stern of a boat salt. Sandwich is inscribed on inside bottom of boat.

LAST SUPPER—A rare old pattern on a plate, showing the forms of Jesus and his disciples, in bas relief, at the table.

LAWRENCE—A tumbler and goblet design of small round orbs or eyes. Plain flint and in colors.

LIBERTY BELL—Special Centennial pattern of the Bell.

LILY OF THE VALLEY—The flower and leaf.

LINCOLN DRAPE—A popular pattern in corded drape, adopted in honor of the Emancipator.

LION—In table ware sets. The King of Beasts in acid finish on top of covers of dishes, reclining at the base of articles, his face on stems and forming the handles of glass trays.

LOG CABIN—An early cup plate design, infrequently found on larger plates.

LOOP—A graceful table ware pattern surfaced with a series of long, plain loops.

LOOP AND LEAF—On stippled surface with ring of small stars on lower part of bowl.

LOOP AND JEWEL—This pattern is found on stippled surface glass with the loop and the jewel in alternate order around the bowl of the article.

LYRE—The instrument in center of cup plates and larger flat pieces; also found on lace salts in sofa type.

MARBLE—Sometimes called Slag. This is a jumble of colors made from a mixture of various colors of metal.

MITCHELL—Strictly a goblet pattern of plain bowl and drawn stem.

MORNING GLORY—A very rare Sandwich pattern with profusion of the flowers, leaves and stems protruding on outside of pieces.

MOSS ROSE—Sometimes called Rose in Snow. The rose on a stippled, dull surface.

MOTHER AND CHILD—Standing in acid finish on plates.

MOUNT VERNON—A goblet of panelled sides; on the Colonial order.

MOUNT WASHINGTON—Another goblet of Colonial type with panelled sides—no figure.

MULBERRY—Another fruit design.

NEW YORK BAR—A tumbler in tall Colonial design with panelled sides. Made for beer tumbler.

OAK LEAF—In varied types. A series of leaves forming the border of a dish; also found as the pronounced decoration with Buckle and Conventional designs.

OAK LEAF AND ACORN—This pattern appears in a narrow band of

acid finish around bowls. A pair of doves often is found on top of covers.

OLD COLONY—Name given to a heavy bar goblet in plain surface and egg-shaped bowl; made for steamship lines.

OWL—Replica of the bird in the form of a pitcher. Often in amber color. Also as an ornament on small mugs.

PANEL—A Colonial type of goblet or dish. Sides in varied size panels. One of the long flute designs.

PANSY—The flower found in colored centres of paper weights and in flint table ware.

PARTHENON—The Temple in ruins, showing broken columns, pyramid and the camel.

PEACOCK—A rare pattern on small plates. The bird occupies centre of plate, the full-spread tail extending to the border.

PEACOCK FEATHER—The tail feather of a peacock. Found on lace plates and dishes.

PEAR—This fruit pattern appears in colored centre of paper weights and on engraved glass. Does not include the fruit pattern on flint table ware. The latter is a Baltimore glass pattern.

PETTICOAT—Strictly a lamp design.

PINEAPPLE—Well-known standard Sandwich pattern, showing section of the fruit. In all table ware pieces.

POLAR BEAR AND SEAL—The animals and iceberg are shown in frosted or acid finish with relief of clear flint.

POP CORN—A late table ware pattern.

POTTED PLANT—Made in table sets. The potted plant sets in a background of dew drop. Bowls have two handles.

PRIMROSE—Another floral pattern.

PRINCE OF WALES—The feather—on cup plates only.

RING—Three varieties—a series of single rings, or frequently a series of double rings; one ring passing through the arc of another. A beaded edge sometimes features the single ring variety.

ROPE—A border or handle design; with other conventional patterns.

ROSE LEAF AND COMET—The leaf of the rose and the celestial body. A goblet pattern.

SANDWICH—A late pattern, commonly called Cane Seat. Made in colors and plain flint.

SHAMROCK—The flower on otherwise plain flint.

SHEAF OF WHEAT—A central design on bread plates and trays.

SHELL—A standard pattern of the Scallop Shell variety. The shell is often found forming the mouth of a pitcher. Stippled and Snake Skin type of nappies and dishes were frequently cast in the form of a shell.

SHIELD—One of the charming patterns in lace glass sets of table ware.

SHOE OR SLIPPER—Another novelty design of those articles.

SLEIGH—Salts in this pattern, also a novelty creation in the form

of a sleigh; usually amber or yellow.

SNAKE SKIN—A Sandwich product evolved by dipping hot glass article in cold water and, after reheating, roiling the crackled surface in pulverized flint glass. Roaming and irregular lines, with dull cast to the glass, usually characterize Sandwich Snake Skin.

SOFA—A salt pattern having shape and feet of the old-fashioned sofa.

SPLASH—More a type than a pattern. Bits of colored metal spattered irregularly over the surface of vases and dishes.

SQUASH—Another early lamp design.

SQUIRREL—A mug pattern. The animal forms the handle of a salt in another type.

STAR—A pattern found in numerous modes; frequently inserted in various conventional designs. A standard ornament on cut and engraved ware.

STAR AND ACORN—A choice old Sandwich plate pattern.

STAR AND FEATHER—A coveted pattern of Sandwich with silvery sheen.

STATE—A cup plate pattern. Nine stars in the center; seventeen stars on scalloped border.

STORK AND CAT-O-NINE-TAIL—The bird and the plant.

STOVE—A novelty pattern or type. Replica of the cooking range.

STRAWBERRY—The berry and leaf.

THISTLE—A common Sandwich pattern in table ware.

THREE FACES—The three faces of a woman on small salts of acid finish; also found on the stems of some dishes.

THUMB PRINT—Familiar pattern; called short flute in the factory. Collectors refer to it as Honey Comb or Thousand Eyes.

TULIP—Another floral pattern.

UTICA—A goblet design of plain bowl, fluted stem and star on bottom of foot. This pattern also has three knobs (called Maries in the Factory) on the middle of stem.

VICTORIA—The Queen on a cup plate.

WAFFLE—A late pattern in the old waffle-iron design.

WASHINGTON—The face of the first President on an early and rare cup plate.

WASHINGTON ROSE—An early floral design on table ware.

WORCESTER—A short tumbler in heavy Colonial panel type.

WYGAND—Pattern of tumbler of half pint size; plain, blown, tapering bowl.

ZOUAVE—A French flute pattern of tumblers and goblets.

NOTE—Bar tumblers were made in great abundance and the fluting or paneling, as it is often called, varied with the following Factory designations: French flute, reverse flute, gill flute, pillar, flute and split, column, reeded flute, edge flute, and reed bar. Some have a relief of knobs on stem. Salts were designated as follows: Rope bottom, cone, key border, Continental restorator, patch diamond, steamboat, shell, derby and Sandwich. In goblets and late table ware there are many conventional patterns similar to other Factory productions of the same period. These are difficult to distinguish.

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